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Utilizing Formative Assessments to Inform Teacher Instruction and Student Engagement

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Utilizing Formative Assessments to Inform Teacher Instruction and Student Engagement

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DISSERTATION ORGANIZATION STATEMENT

This document is organized to meet the three-part dissertation requirement of the National Louis University (NLU) Educational Leadership (EDL) Doctoral Program. The National Louis Educational Leadership EdD is a professional practice degree program (Shulman et al., 2006).
For the dissertation requirement, doctoral candidates are required to plan, research, and implement three major projects, one each year, within their school or district with a focus on professional practice. The three projects are:

- Program Evaluation
- Change Leadership Plan
- Policy Advocacy Document

I have learned to identify areas of strength and weakness within my school building. Through the Program Evaluation, I was able to critique our current formative assessment system by using data points and surveying teachers. This compilation identified gaps that allowed me to create a strategic Change Plan to institute a stronger approach to our current formative assessment system, which led me comfortably to the Policy Advocacy relating to the change in homework.

For the **Program Evaluation** candidates are required to identify and evaluate a program or practice within their school or district. The "program" can be a current initiative; a grant project; a common practice; or a movement. Focused on utilization, the evaluation can be formative, summative, or developmental (Patton, 2008). The candidate must demonstrate how the evaluation directly relates to student learning.

In the **Change Leadership Plan** candidates develop a plan that considers organizational possibilities for renewal. The plan for organizational change may be at the building or district level. It must be related to an area in need of improvement with a clear target in mind. The candidate must be able to identify noticeable and feasible differences that should exist as a result of the change plan (Wagner, et al., 2006).

In the **Policy Advocacy Document** candidates develop and advocate for a policy at the local, state or national level using reflective practice and research as a means for supporting and promoting reforms in education. Policy advocacy dissertations use critical theory to address moral and ethical issues of policy formation and administrative decision making (i.e., what ought to be). The purpose is to develop reflective, humane and social critics, moral leaders, and competent professionals, guided by a critical practical rational model (Browder, 1995).

Works Cited

Browder, L. H. (1995). An alternative to the doctoral dissertation: The policy advocacy concept and the policy document. *Journal of School Leadership, 5,* 40–69.

Patton, M. Q. (2008). *Utilization-focused evaluation* (4th ed.). Thousand Oaks, CA: Sage.

Shulman, L. S., Golde, C. M., Bueschel, A. C., & Garabedian, K. J. (2006). Reclaiming education's doctorates: A critique and a proposal. *Educational Researcher, 35*(3), 25–32.

Wagner, T., et al. (2006). *Change leadership: A practical guide to transforming our schools.* San Francisco: Jossey-Bass.

ABSTRACT

The purpose of this program evaluation was to gain a clear understanding of how formative assessments impact teacher instruction and engage students. I used a survey with the teachers and data taken from their math formative assessments and NWEA MAP testing results on the mathematical concepts such as: Operations and Alegebraic Thinking, Numbers and Operations, Measurement and Data and Geometry. There were gaps identified with the formative assessments, teacher reflection with instruction and the absence of student engagement throughout the process. I found that teachers were not always using formative assessments to reteach concepts or adapt their instruction. Additionally, students had no responsibility or were not cognizant of their results on assessments or goal attainment. I recommended that the school should reformat or rewrite the current assessments to match the rigor Common Core, while forcing teachers to use data to assess their teaching and student learning in order to become reflective practitioners. Moreover, we should work to make students responsible for their own learning by engaging them through the data and goal attainment.

PREFACE

State assessments have their place in a balanced system, although assessments results are used to make judgements about schools it usually does not directly apply to the student's academic level. Rather it focuses on curriculum, teaching and learning school-wide.

Schools have difficulty using only summative assessments to inform or direct instruction when formative assessments should be used frequently to make instructional adaptions. Conducting a program evaluation regarding the use of formative assessments, teacher instruction and student engagement had its challenges, but it provided me the opportunity to heighten my instructional leadership skills.

With any change, professional relationships are imperative to ensure trust has been built to buy-into and support the new change. I have worked in my building for the last seven years. Relationships over time have strengthened because of commitment we have made to each other to be open, honest and flexible. Struggles and opposition does occur, but open communication allows for each side to be heard before we move forth. A successful school culture is necessary to challenge the status quo and allow for growth to continue.

I have learned a long time ago that administration is lonely because of the decision-making and accountability that is necessary to be successful. Holding one accountable, rethinking our approaches and continuously making good decisions for students becomes a daunting task when a change in mind-set is at the forefront. Communication and a strategic plan create a safe and comforting environment for staff involved because it allows them to see the end result. It also emphasizes the true meaning

of collaboration and teamwork which is what I love best about my job. I am grateful for the opportunity to evaluate a program within my building because it is something I will do consistently for the remainder of my career. Even though it will not always be as formal, it has given me the building blocks to ensure I always make student centered decisions.

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SECTION ONE: INTRODUCTION

Purpose

State assessments have their place in a balanced assessment system. They provide all-encompassing data about the performance of many students from third grade to graduation. With the additional pressure brought upon school districts by the No Child Left Behind Act, assessment results are becoming increasingly scrutinized by both those in education and those in the public.

Assessment results are used to make judgments about a school; however, often the type of data shared does not apply directly to the student level. Rather it is used for school administration and teachers to identify areas of strengths and weaknesses in curriculum, teaching and learning across the school. In other words, it is summative in nature, i.e., used to formally measure overall learning and student mastery of state standards. This school level use of data is useful only in making large scale decisions. It is never ready in time to make real-world instructional decisions, but instead is shared after the student is ready to start the next grade. As a leader, it is important to use all data to support learning and instruction but it needs to be instant and strategic. Receiving data so late does not effectively help to change what is current and necessary.

Without state level data being readily available, districts around the country still move forth with implementing, tweaking and introducing new and thoughtful ways to approach teaching and learning for student success. “Ambitious rhetoric has called for systematic reform and profound changes in curriculum and assessments to enable higher levels of learning. In reality however, implementation of standards has frequently resulted in a much more familiar policy of test-based accountability, whereby test items

often become crude proxies for the standards" (National Research Council, 2011, p. 1). So although districts around the country have implemented and created test assured curriculum it has not achieved the accountability they were hoping for. Success on the test is not determined by the process of implementation of these standards, but the authentic learning process teachers and students needs to routinely change, tweak and assess. Curriculum does not strategically match the questions asked on state tests and there is not a direct correlation with the success of the standards., which is why the adoption of the Common Core Standards (New Illinois Standards) has caused anxiety. They are both rigorous and taxing due to their depth and conceptual understanding. This complexity not only affects how students learn, but how teachers instruct students using multimodalities and differentiated practices.

My district, which I will refer to as District X, is situated in a small southern suburb of a large Midwestern city, and like most districts is working on using assessments as a tool to meet the Common Core State Standards. District X is comprised of five surrounding suburbs and includes five elementary schools and one middle school. After many years of stagnant State Standard Achievement Scores (ISAT), and several schools not making Annual Yearly Progress (AYP); the District implemented an instructional map and teacher- created formative assessments to align instruction with state standards. Formative assessments are "a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes" (McManus, 2008, p. 3). In other words, formative assessments are frequent, informal checks within the

teaching and learning process to gauge student understanding and success to meet the end goal.

As District X reflected on the best way to use data to improve student learning, we developed and implemented a formative assessment system. This system requires teachers to "think differently about how they report, interpret and use student assessment data" (Conderman & Hedin, 2012, p. 1). The formative assessments used by District X were comprised of four questions that relate to the standards taught within a three- week period. The District believed, without creating a formative assessment system and approach for using this data; students may not develop the skills necessary to achieve success on Partnership for Assessment of Readiness for College and Careers (PARCC) or Northwest Evaluation Association (NWEA) which is also known as (MAP).

The main purpose of this study was to better understand the formative assessment system and its impact on classroom instruction through a program evaluation. In my research, I examined the teacher- created formative assessments and their alignment to the Common Core Standards, reviewed student performance on those formative assessments, analyzed current practices of teaching math, evaluated materials/ resources used for instruction, and reviewed summative data such as end of the year NWEA results. By doing so, I was able to form a deeper understanding of the strengths and weaknesses of District X's formative assessment system.

As the instructional leader of the building it is critically important for me to understand the difference between formative and summative assessments and the significance that the data has on student achievement. I have seen teachers struggle to make the connection between assessment and instruction as well as student engagement;

(an often overlooked component). Indeed, the understanding, connection and application takes time, professional development and buy-in from educators. Teachers need to understand the effect of formative assessments on student engagement and learning, and how it allows for fluidity within the curriculum. This program evaluation allowed me to delve more deeply into the purpose, practice and fidelity of implementation of the formative assessment system. The data and research will help me make better informed decisions as the building principal, and allow me to share my findings with the district administrators.

District Area of Improvement

Our district's ISAT scores signaled that both a change in our instruction and curriculum was needed. As the percentage of meet and exceeds scores on ISAT's continued to rise in the state, our district remained stagnant. The publicized scores of public schools and their ratings, raised concerns not only nationwide, but within communities.

Our Board of Education and parents began to question the effectiveness of the instruction and curriculum. To address the concerns, principals wrote School Improvement Plans (SIP) which were then approved by the Superintendent. SIP plans needed to include how schools would address issues and concerns in curriculum while coordinating them to the Board's goals in instruction, professional development and community. In each goal area, we needed to provide activities and monitoring that will be used to meet the intended goal. The main reason for our stagnant state assessment scores was the district was not approaching standards using the correct methods or resources. Resources were limited to textbooks which lacked in reciprocal teaching and additional

skill practice. Some standards were sparsely covered within the textbook which left teachers searching for outside resources. These supplementary resources did not always accurately depict the learning that students needed to demonstrate on the ISAT test.

My reason for evaluating the formative assessment system in District X was to increase student achievement and develop 21st century learners that are well-equipped with skills related to problem solving, critical thinking and working collaboratively. The curriculum lacked focus and connectivity in these three areas, which are necessary for the PARCC assessment. In order to achieve ultimate success on the PARCC exam, our district created an instructional map in math to guide the order of instruction and assess learning during a three-week cycle focusing on critical thinking, problem solving and working collaboratively. District X relied heavily on textbooks for the last ten years without truly teaching the 21st century skills which resulted in the instructional order of math skills being taught based on the textbook, not on the connection each skill had to another skill. The standards used prior to Common Core were the Illinois State Standards, which also lacked complexity, depth and higher order thinking. They were simply a guide used for lesson planning and primarily used in test preparation

District Response

Data driven decision-making and instructional pardigms became imperative in increasing student achievement. "In the 1990's and, especially after No Child Left Behind became law, the gathering of data, disaggregating information by groups and individuals, and then applying lessons learned from the analysis to teaching became a top priority" (Cuban, 2011, p. 2). My District shifted its focus from the State Learning Standards to the Common Core Standards in the summer of 2013 when we created

instructional maps to ensure all of those standards would be mastered per grade level by the end of each school year. The maps began in September and ended in May with teachers accountable for teaching those standards within a three-week period of time. They would then give the students a teacher (district-wide by grade level) created formative assessment to measure student mastery of each skill. The data from the formative assessment was then to be used to drive instruction and substantiate student success.

School-Level Leadership

In order for, formative assessment systems to be successful, the school-level leadership should follow the recommendations of the National Association of Elementary Principals. The National Association of Elementary Principals outlines five recommendations on how to use student achievement data to make good instructional decisions. The first is making data part of an ongoing cycle of instructional improvement. To help students achieve, teachers need to routinely and consistent use data to guide instructional decisions. The second is to teach students to look at their own data, track their improvement and set their own learning goals. Students need to be provided opportunities to interpret their own data and set goals based on their knowledge of expectations and assessment criteria. The third is to ensure a clear vision for schoolwide data use and knowledge. The schools should establish a data team to uphold the vision, create a model for data usage and encourage instructional decision-making based on the data. The fourth is to provide supports to foster a data driven culture. Leadership for a data-driven culture needs to include training, structures time for collaboration and targeted professional development. The fifth is to develop and maintain a district- wide

data system used to record all the collected data into a central location. Stakeholders must be invested in this unified system that can help plan the stages of implementation (NAESP, 2011, pp. 3–7). In other words, school-level leadership is critical in the development, monitoring, and improvement of all teaching and learning within this process.

Student Involvement

Oftentimes, the student engagement component of assessment systems is neglected. Even within a structured model for student engagement and achievement, without students taking pride in their own learning the structure will be flawed. Instructional decision- making needs to be directly related to and relevant to the student before engagement becomes a consistent pattern in the learning process.

Students have control over their learning in many ways. Even if they have a distinguished teacher, if a student is not engaged or a participant within their own learning, then they will not learn. “Learning is a process in time: the amount of learning achieved can be registered as change over some time interval in an individual’s knowledge, skills or values” (Sorenson & Hallinan, 1977, p. 275). In order to improve student performance, the student must become invested in his or her own learning. Sorenson and Hallinan have identified three basic components that should be present for learning to occur: ability, effort and opportunities for learning (1977, pp. 275–276). No student will learn material without exposure to the content, but there needs to be effort or engagement on their part for learning to truly occur.

Rationale

Our district has focused heavily on the creation and implementation of a formative assessment system. My primary job as a building principal is to effectively message the importance and consitency of district goals related to instruction, assessment and student achievement.

As the building principal, it is my job to consistently deliver the message that formative assessment systems work and ultimately determine student success. I do not disagree with this idea; however, I believe this study identified missing pieces that are necessary to build a successful and productive formative system. As the instructional leader, I have noted some of my own concerns surrounding the formative assessment system and classroom instruction that have led me to look into it more completely. In addition, to past observations, this program evaluation has allowed me to examine the strengths and weaknesses of the formative assessment system. Having a fuller understanding of the state of the formative assessment system will allow me to strengthen teacher instruction and assist them in incorporating the student engagement piece.

As a result of my research, I have come to the realization that we are missing key components. The formative assessments have been created district wide and teachers are instructed to use the data to drive instruction, but it is unclear as to how students are involved in the data or learning process. I have observed data given to students without any ownership or participation in their data. Students cannot be owners of their own learning when they do not understand where they are and where they need to be. Their engagement is critical in the teaching and learning process. Without student engagement, teacher's instruction will not impact learning. I want to be an advocate for improving the

formative assessment system to create a fluidity with teaching, learning and student engagement while restoring the community's faith in District X. Being transparent about scores, effectively communicating improvements and focusing on instruction will strengthen their commitment to education. It has become a priority for me to examine the factors that promote student engagement, along with the formative assessment system. Many studies have been conducted about the impact and role that formative assessment systems have on student engagement such as: Conderman and Hedin (2012), Heritage (2007), and McManus (2008). Each study examined three components to build a successful formative assessment system: formative assessment, teacher instruction and student engagement.

Impact

This program evaluation will impact stakeholders, the District and the educational community because it examines many facets of the educational system at large, primarily teaching, learning and student engagement. The stakeholders include students and teachers in addition to the District and the larger educational community.

An improved formative assessment system will include the students we service every day. They will benefit greatly from this program evaluation because it will identify the strengths and weaknesses present in the current system. It zeros in on teacher instruction and student engagement. It enables students to be responsible for their own learning by monitoring, assessing and maintaining their own data.

Teachers will use that data to improve their instruction for all learners by becoming reflective practitioners and identify areas needed for improvement. They will

continuously monitor and assess their instruction to provide what is necessary for each student along the way.

The District will benefit from this program evaluation because formative assessments are used district -wide in reading and math. In order to achieve higher scores on the PARCC assessment we need to evaluate our current system of practice using formative assessments. Identifying the three components to building a successful formative assessment system was key to establishing what we do well and what needs to be improved.

The educational community will benefit from this evaluation because it will highlight improvements on both an instructional and student level. It will identify strengths and weaknesses and how to address those areas.

Addressing the strengths and weaknesses on a smaller scale first (stakeholders) can help set the structure and fundamental pieces to adapt to the larger scale such as the District and educational community. This identification will have a greater impact on change.

Goals

The goal for this program evaluation was to assess the implementation of the formative assessments system on grades 2 through 5. Past research, indicates that formative assessments are beneficial to student learning, but in order to be beneficial they must be implemented with fidelity.

This program evaluation allowed me to see beyond the informal observations I have made about the implementation of the formative assessment system in relation to student learning. Informally, I have seen teachers instructing students, then assessing

them. They record the data and then continue on to teaching the next standard. There is no interaction with the data on the part of the teacher nor the student. Little or no reflection is done on what students know and what they need to know. There are no major instructional adaptations made to ensure student success nor are there any student interactions with data. Students could not communicate their own learning even using their assessment scores. Working in the trenches allowed for me to strategically assess each piece of the formative assessment system from development to implementation.

While perusing the standards and the timelines for teaching, I began to wonder if some of the standards were not being taught for mastery because of the lack of time allocated for the standards (three weeks). For example, some instructional cycles contain a standard or multiple standards that need more than three weeks for mastery. Some other cycles contain holidays, days off, institute days or other student non-attendance days, which led to less instruction than the three-week cycle allowed for. In turn, the teacher created formative assessments did not always match the concept which limited student understanding so the concept was retaught and the cycle window went beyond three weeks.

Second, some of the teacher-created formative assessments did not align or measure the standard taught. In some cycles, the assessments were created without fully understanding the premise of the standard. Next, some teachers may not recognize how to effectively teach the math skill (lack of understanding), so they rely on what they know (previous knowledge) and how they were taught. Instruction focusing on rote memorization and explicit teaching of steps interferes with the conceptual and higher level thinking necessary to demonstrate understanding of the standard. For example, an

assessment may give students a story problem with fractions where they need to use the concept of fractions to solve. However, the students were only taught what a fraction is, how to write and read one. The assessment was focused on the higher level use of fractions, rather than the basic parts of a fraction. Furthermore, if the concept was taught incorrectly the first time, the students will be retaught incorrectly again.

Lastly, reflective practices should be (but are rarely) used by teachers on their own to refine or redesign the instructional delivery of the lesson. Teachers should ask themselves: Why did the majority of the students not do well? Was it how I presented the information? Could I reteach it differently this time? How are the goals related to student learning?

Research Questions

My program evaluation was driven by a series of research questions that are aimed at understanding the effectiveness of the formative assessment system in my District. I start by asking the following primary question:

1. How do teachers reflect upon formative assessment, instructional practices and student engagement?

Secondary questions include:

1. How does the formative assessment system impact teachers, students and instruction on a daily basis?
2. How is student performance on formative assessments related to MAP testing?

In addition to asking these questions, I studied how modern educational leaders define success in the classroom and beyond.

SECTION TWO: LITERATURE REVIEW

Throughout my years in education, the definition of a successful school has changed dramatically. It used to be that a successful school had a solid curriculum, good teachers and a strong home-to-school connection. However, "an early incarnation [of data-driven instruction] appeared four decades ago. Responding to criticism of failing U.S. Schools, policymakers established 'competency tests.' These tests measured what students learned from the curriculum. Policymakers believed that when results were fed back into principals and teachers, they would realign lessons. Hence, it became the 'measurement-driven instruction' era" (Cuban, 2011, p. 1). During the era of No Child Left Behind, a school's success was measured solely on how well they performed on the state assessment. The criticism continues with the emphasis on performance numbers rather than on solid, quality instruction. A balanced assessment system will only be successful when it contributes to teacher instruction and engages students within learning. To fully understand the utilization of formative assessment, it will be important to examine literature in the following areas: formative assessments, teacher instruction and student engagement.

Assessment Systems- Utilizing formative and summative assessments

The United States has remained relatively unchanged for the past century in academic performance, and we remain unchanged in our approach to the use of assessment data, continuing to only use classroom and local assessments as a tool for collecting data instead of as tool for instruction (Cuban, 2011). Gardner (2004) believes, "…formal testing has moved too far in the direction of assessing knowledge of questionable importance in ways that show little transportability…quite different forms

of assessment need to be implemented if we are to document student understanding" (p. 134).

Stiggins (2004, p. 23) concurs with Gardner's sentiment that "the belief in the power of standardized testing has blinded public officials and school leaders to completely different application of assessment—day-to-day classroom assessment—that has been shown to trigger remarkable gains in student achievement." The emphasis on standardized testing has overtaken the critical components of learning. Authentic learning should be measured using a formative assessment system that impacts teacher instruction and engages students. Incremental measurements of growth can help assess the true knowledge of students, and in turn, lead to better standardized testing scores.

What most of us probably remember from school are summative assessments, which are given after learning has stopped normally towards the end of the year or when the majority of learning has taken place (end of a unit). Summative assessments are used to measure which students met the intended goals and which ones did not. On the other hand, formative assessments have become increasingly prevalent. Formative assessments are used throughout to ensure continuous learning occurs. Formative assessments have shown gains in student achievement because of the frequency, process and understanding of intended learning goals. "Teachers can use students' formative assessment data to identify factors that may motivate student performance and then adjust their instruction to better meet students' needs" (NAESP, 2011, p. 4).

Formative assessments are not new to education, but have only recently become a primary focus of instructional practices. McManus (2008, p. 3) says, "Formative assessment is a process used by teachers and students during instruction that provides

feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes." This definition does not limit assessments to just a test or a quiz; it can be used to check in on learning throughout the instructional process. Some examples of formative assessment include: journals, thumbs up- thumbs down, exit slips and conferencing.

There has been an increasing interest in formative assessment amongst educators in recent years because of the frequency and adaptability of their use within the learning continuum. "Educators regard formative assessment as a way not only to improve student learning, but also to increase student scores" (McManus,2008, p. 3). The quality of the data collected in formative assessments can help ensure learning takes place before, during and after instruction, which is important to increase student achievement.

Effective Formative Assessment Systems

There is no denying that a formative assessment system could effectively raise test scores, but what does that look like in schools today? Formative assessments alone cannot substantiate the growth expected from students without a clearly defined process. Formative assessments should not be used in isolation, but, rather part of the instructional practices involving teachers and students receiving frequent feedback. The involvement of teachers and students creates a balance within the system. "The process requires teachers to share learning goals with students and provide opportunities for students to monitor ongoing progress" (McManus, 2008, p. 3).

In order for formative assessments to increase instruction and student engagement, teachers and administrators need to use data effectively. Because of the accountability and scrutiny of schools, teachers and administrators need to think

differently about how the interpret, report and use data. The weight of accountability cannot be sustained by one group alone, yet we place a lot of emphasis on teacher instruction. Since 2016, all teachers in the state are evaluated on the growth their students make as part of summative ratings. Although the percentage of various assessments are used, summative, formative, or teacher-created, the fact remains that the teacher is solely responsible to show growth because their jobs depend on it.

One would assume that the implementation of a formative assessment system would help raise scores, but what other components are necessary to ensure ultimate success? Having an effective formative assessment system depends on how it is used. Conderman and Hedin (2012) describe formative assessments systems as a cycle to support learning. In other words, it is not about the tests but their use. "Teachers should reflect critically about their instruction and make important instructional adjustments; and students to adjust their thinking processes, engage in self-assessment, and have multiple opportunities to improve and demonstrate their learning" (Coderman & Hedin, 2012, p. 162). Moreover, Schultz and Thunder (2015, p. 453) believed, "effective assessment includes a variety of strategies and data sources, and informs feedback to students, instructional decisions and program improvement."

In order to achieve an effective assessment system, educators must hold productive beliefs about assessment, the process and implementation. When these beliefs are in place and common practice, teachers can analyze their practices using Black and Williams's (1998) four elements of effective formative assessments. "The first element is questioning strategies: Do I ask questions that elicit students' current understanding and misconceptions of mathematical content? The second element focuses on providing

feedback: Do I give students comments that enable them to build on their current understanding? The next is sharing criteria: Do I share and discuss with my students my goals for their learning and the benchmarks I use to evaluate their work? The last step is student self-assessment: Do my students have the opportunity to evaluate and reflect on their own progress toward learning goals? These questions will broaden the idea of formative assessments and allow instructional practices to become more fluid models of student learning. By using these guiding questions, teachers are able to move beyond the actual assessment to form instructional decisions" (p. 7).

The idea that assessment and teaching are reciprocal activities still does not resonate with many educators. Heritage (2007, p. 140) says, "...assessment is often viewed as something in competition with teaching, rather than an integral part of teaching and learning." Teachers see assessment as something external and mandated that takes time away from teaching what the students really need to know. "In a profession that already feels burdened by the amount of assessment, there is a danger that teachers will see formative assessment as yet another external demand that takes time away from teaching" (Heritage, 2007, p. 141). However, formative assessments are vital for teaching.

Theorized by Lev Vygotsky, educational psychologists identify the zone of proximal development (ZPD) as the distance between what the child can accomplish independently and what the child can accomplish under the support and guidance of an adult (Heritage, 2007, p. 141). Formative assessments provide that support and guidance. Teachers will never close the gap of individual students without recognizing that

formative assessment and the teaching process are inseparable and help students to reach their potential.

Schools leaders are not to blame for this quick fix approach in trying to create formative assessment systems to raise test scores. The high demand and pressure from district and state level stakeholders forces administrations to make decisions without a reflective practice in place. Schools truly need teachers who understand the new standards and could articulate those to the students within their classrooms. "Teachers needed to be able to assess their students' progress towards standards and be able to take the next logical steps informed by assessment driven data" (Stewart & Houchens, 2014, p. 53). The process of using data for instructional decision-making allows for differentiation of instruction to occur within the classroom setting. Some students should receive extra support to meet the required standards, while others receive enhancements to extend their learning. Schools needed to focus less on test-taking strategies and preparation and more on equipping teachers with instructional practices to increase student achievement. Stiggins and Chappuis (2006, p. 12), focus on five key classroom instruction competencies that teachers must possess to effectively use formative assessments for learning.

The first is a *clear purpose* which defines the assessment process and ensures that results have an appropriate purpose. The teacher must understand who uses classroom assessments and how the relationship between assessment and student motivation exists. There is a clear and concise assessment process that contains a comprehensive plan to integrate learning in the classroom.

The second key is *clear targets* which ensures that assessments reflect clear and comprehensible learning targets for students. Teachers know the learning targets and create student-leveled targets that are accessible and define what they need to know and be able to do.

The third key is *sound design* of instruction which entails the learning targets are then used in an assessment format to gage students learning and understanding. This becomes tricky because the teacher needs to understand the various assessment methods available and choose the one that will match the intended learning goal.

The fourth key is *effective communication of assessment results*. Teacher need to record information, interpret the results and effectively communicate these to students. The fifth and final key relates to *student involvement* before, during and after teaching, learning and assessment. Teachers must ensure that learning targets and goals are clear to students. Students also need to be actively involved in assessments, tracking and goal-setting to ensure success. By including students in the assessment process, we are engaging them in a dialogue about their learning. Stiggins and Chappius (2006, p. 14) state, "if we don't begin this dialogue, the idea of assessment for learning, we are relegating assessment to its accountability role and passing up its potential benefits to students."

Changing habits and instructional practices takes time, professional development and reflective practices. Developing assessment competencies requires people to rethink what their current instructional practice is and what beliefs led them to these practices. It challenges them to give up old practices in order to incorporate new approaches in teaching and learning. Some teachers will be uncomfortable and uncertain exploring the

new approaches, but support and training will ease the anxiety in the assessment process (McManus, 2008).

Student Engagement- Enhancing Student Learning

For many years students were described as individuals who come prepared to learn. What does a prepared learner look like? Is it a student who comes to school already knowing their ABC's or knows how to read and write? Or is it a student who is compliant and does all the work the teacher assigns and listens attentively during lectures? Students come to school with various learning levels and proficiencies, various backgrounds and even achievement gaps beyond two years. These differences may be explained by a variety of factors, and these factors, "may in turn be linked to family background, characteristics of peer groups and school and teacher characteristics" (Sorenson & Hallinan, 1977, p. 276). These factors are ever-changing and evolve based on students' home lives, background knowledge and skill base. Schools become responsible to meet the needs of all students with various skill levels and backgrounds. As we all know, the mission of schools has changed over time, just like the students we serve. We need to be less focused on what students do not know, and more focused on ensuring that all students are successful. We can no longer allow students to become hopeless or stop trying. We need to, hold them accountable and engage them in their own learning.

We need to embrace this new vision of assessment that can provide students with confidence, motivation and learning potential (Stiggins, 2007). Stiggins describes this experience for students as an emotional winning or losing streak. "We need to enable all students to experience the productive emotional dynamics of winning, we need to move

from exclusive reliance on assessments that verify learning to the use of assessments that support learning- that is, assessments for learning" (Stiggins, 2007, p. 22).

Formative assessments for learning turn instructional practices into teaching and learning, rather than just monitoring students. The principles of assessment within learning create a cycle of interactions that produce academically successful students. Student participation within their own learning allows them to understand what success looks like and monitor where they are and where they need to be. The more familiar students become with this teacher-led process in the beginning, the more likely they are to begin to set their own goals for learning and achievement (Stiggins, 2007). No longer is the relationship between teacher and student separate, but they become partners in the learning process. The teacher's role becomes more of a facilitator that allows students to become the driver of their own learning. "Assessment for learning provides both teachers and students understandable information in a form they can use immediately to improve performance" (Stiggins, 2007, p. 24). It then becomes an intertwined experience that allows for students to gain confidence, even when there may be a set-back.

We need to rethink our beliefs that teachers are the most important piece of the formative assessment system. Students have their own thoughts, ideas, and opinions regarding assessment systems, and their voices need to be recognized and valued. How students emotionally react to results will determine what they do about their learning. Assessment for learning becomes a productive and useful model when it can produce a winning streak for all students. Formative assessments can help improve learning but, in order to do so, students must be included in every step of the creation process.

SECTION THREE: METHODS

Research Design

In order to address my research questions, I used a mixed methods approach for a utilization-focused the program evaluation (Patton, 2008) of District X's formative assessment system. The mixed method design allowed for a better discussion at the district level when sharing data and input from the surveys. Just sharing the hard numbers would not allow us to understand and see how teachers use and implement the formative assessment system within their classroom or with students. The qualitative data allowed me to also gain an understanding of the stakeholders' views of the formative assessment system. Stakeholders should have input on the recommendations for improvements in this program. Using various data points, and design methods allowed me to gain a global view of the effectiveness of the formative assessment system and its impact on the District.

Quantitative data was collected from the Google database that houses all the formative assessments scores for students in grades 2 through 5 during the 2014-2015 school year. The formative assessment data was pulled and put into grade level pivot tables by standard. This data was stored in an excel spreadsheet without teacher or student names but was labeled with A or B to differentiate the teacher. The spreadsheet was located on my computer which is password protected, and then saved on a zip drive that is only be accessible to me.

Additionally, an anonymous survey was given to teachers in grades 2 through 5 using an online tool called Survey Monkey. The survey will be a mixed format using a Likert Scale for some questions and written responses for others. The Survey Monkey

site is also password protected, and all the data received from the site will be put into a similar Excel spreadsheet and protected. Teacher quotes from written responses will be codified within the context of the research questions and then aligned to trends collected within the formative assessment data. The data will reveal the answers to my research questions in regards to how teachers reflect on their own practices of instruction and student engagement, and how this reflection or lack thereof affects daily instruction for teachers and students.

Participants

In total, there are five elementary schools and one middle school to service approximately 2,536 students within District X. Seventy-four percent of the students are low-income with 16% comprised of students with disabilities and 18% that are English language learners. Student mobility remains low at 11% with the District spending $7,113 per pupil (Illinois Interactive Report Card, 2015). I focused my efforts on one elementary building and the teachers in grades 2 through 5. Two hundred and eighty students are enrolled in this school, which housed ECE-5th Grade. The 2nd – 5th graders enrollment in 2015 was approximately 150 students. Seventy-four percent of the students are low income. Twenty-four percent of students are White, 3% Black, 67.7% Hispanic and 1.9% Asian. About 21% of the students are English Language Learners, and 22.4% are students with disabilities. The attendance rate is 95.3%,and there is a low mobility at 12%. The average class size is 20 with 50% of the students meeting standards on the 2014 ISAT. I focused my data collection on eight 2nd – 5th grade teachers. I will not identify the teachers nor the students in their classes but will use a unique identifier in their place. The teachers are all female with experience ranging from 1st year to 29th year.

There are four tenure and four non-tenure teachers. I chose this specific sub-group of teachers because I have worked closely with them to create, tweak and modify the instructional calendars and assessments for math. I also wanted to see how well the formative assessment system works on grades levels that also participate in MAP testing three times a year.

Data Gathering

My data was compiled in a Google Doc template that records the results from all the formative assessments and the specific standard tested for the entire district. It is located within a shared drive that is accessible to all building employees. Once this data has been gathered, I created a bar graph with the content strand testing on the mini-assessment which are from our formative assessment system and MAP categories: Numbers and Operations, Data Analysis, Algebra and Geometry/Measurement. The bar graph was used to measure the following student score criteria: Lo, LoAvg, Avg, HiAvg, and High. Lo represents the 21st percentile, LoAvg 21-40th, Avg 41-60th, HiAvg 80% and High represents above the 80th percentile. The numbers come from the four- question mini-assessments and the low-high categories are provided on the MAP assessment. The mini-assessments are given approximately once a month after the standards have been taught. The MAP test is given three times a year: Fall, Winter and Spring.

This data collection also included the Survey Monkey survey which records the data for me in a cohesive template. The survey was anonymous focusing on scaled responses such as: Once a day, Once a Week, Once a Month or Never. Questions on this survey were geared towards formative data, instruction, materials/resources, student engagement and reflective practices.

I examined the formative assessment and MAP scores in Grades 2-5 within my own building. We can then use this data to examine how closely aligned the assessments are to the NWEA MAP test, and also how well-written the questions on the formative assessments are compared to those on the NWEA MAP test. Are the questions phrased or set up similarly? Is higher order thinking involved in both? I want to make more of a positive contribution to my district and this program evaluation can help me determine the effectiveness of current practices.

Data Analysis

In order to determine the impact the formative assessment systems had on instruction, all student data was examined for relationships between formative assessments and NWEA results. I looked at the differences and similarities of student scores on the formative assessments and the percentage of the students that met their growth goals on NWEA. Using that data alone did not tell me enough to make an informed decision on the impact of teacher instruction. To better understand instruction, reflection, resources and student engagement, I used the Survey Monkey results for 2nd – 5th grade teachers. I have decided to use a scale and written responses from teachers for a generalized approach to coagulate and code the data into charts or graphs. The purpose of the survey was to look for patterns or trends in the responses from the reflective questions and the Likert Scale. The relationship between assessment data and the survey informed the relationship that instruction had with student outcome. I used the following questions on the survey:

1. How do your classroom practices support formative assessment? (Reflection)

2. Provide examples of how you use formative assessment data to adapt instruction to meet the specific needs of students? (Reflection)
3. How often do you use formative assessments with students? (Likert)
4. How often do you use formative assessment to check for student understanding during instruction? (Likert)
5. How often do you use lesson objectives (I can statements) with students to, explain what is expected of them, and state the criteria by which learning will be judged? (Likert)
6. How often do you use checklists, anecdotal notes, or other informal means of notating students' understanding of what's being taught? (Likert)
7. What others formative assessment do you use in your classroom besides the min-assessments given after each cycle? (Reflection)
8. How do you provide timely feedback to students? (Reflection)
9. How do you know students are engaged? (Reflection)
10. How often do you reflect on your own teaching practices? (Likert)
11. What supports/resources or professional development would you like the school to provide for the formative assessment system? (Reflection)
12. Is there anything else about the formative assessment system you would like to share? (Reflection)

SECTION FOUR: FINDINGS AND INTERPERTATION

The teacher survey data was collected and analyzed in two different ways. First, the reflective questions were analyzed for consistent responses using similar vocabulary or verbiage associated with instructional practices and the formative assessment system. Second, the Likert scale was collected and percentages were calculated in the following categories: Once a day, Once a week, Once a month or Never. Valuable information was collected from this survey to zero in on the perspective and insights teachers have on the formative assessment system.

Likert Scale Responses

Overall, teachers indicated that monitoring the student instruction allows for them to gain greater insight of understanding. The figures below show the teachers' exact responses. After reviewing the data, the top response in each of the five questions was "Once a day." The second greatest percentage was "Once a week." It appeared that one out of eight teachers responded "Once a month" to each question (See Figure 1). There was great meaning to this data because it showed the frequency and intensity that formative assessment system had on classroom instruction. The more often assessments were given the more likely teachers were able to tweak their instruction to reflect the data collected. However, based on the reflected responses, even though it happened often, that does not mean it happened appropriately. Even though frequent assessments were given does not mean that they assessments appropriately matched instruction or that teachers used that information to change their instruction. This data was useful when making changes to the formative assessment system.

My main takeaway from this survey was how comfortable teachers were with teaching, learning and engaging students within the formative assessment system. The frequency of implementation and usage varied depending on teacher compliance or best practice. Those teachers that responded more often believed in best practice and reflective instruction whereas, those that responded less often complied with the District initiative to only assess once a month (See Figure 1). Not only will this information help impact student instruction, but it will provide more opportunities for teachers to see the effectiveness of strategic, frequent and engaging instruction.

Figure 1. How often do you use formative assessments with students?

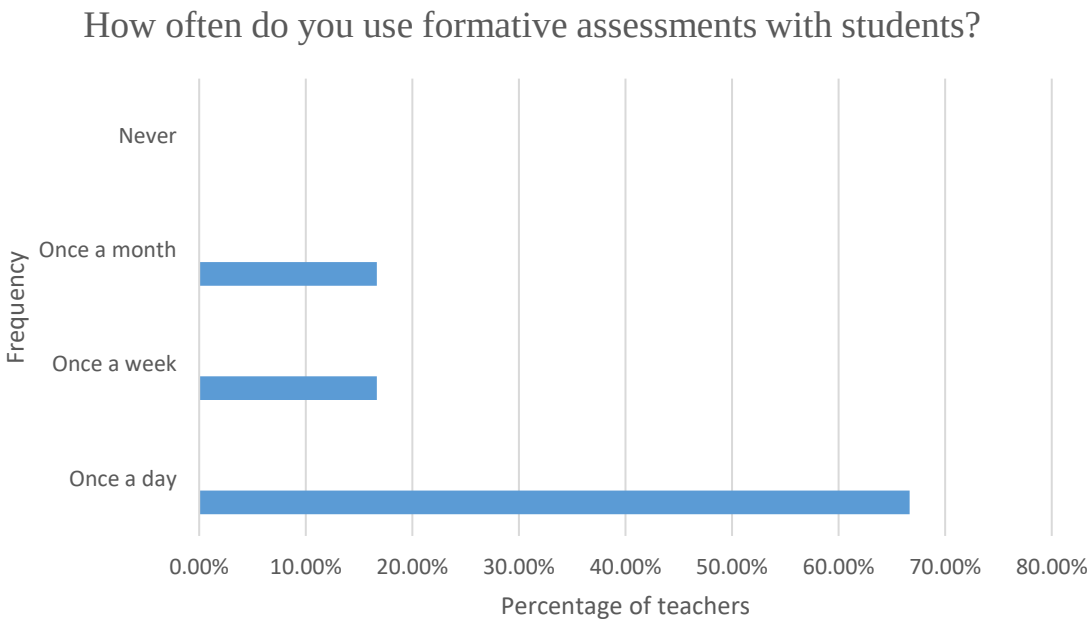


Figure 2. How often do you use formative assessment to check for student understanding during instruction?

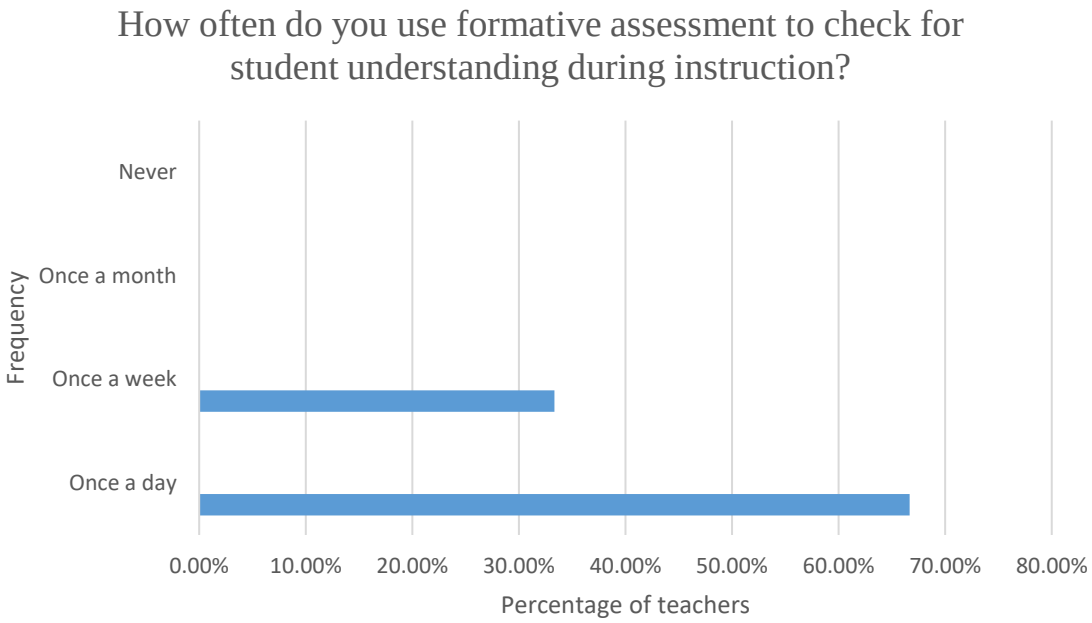


Figure 3. How often do you use lesson objectives with students to, explain what is expected of them, and state the criteria by which learning will be judged?

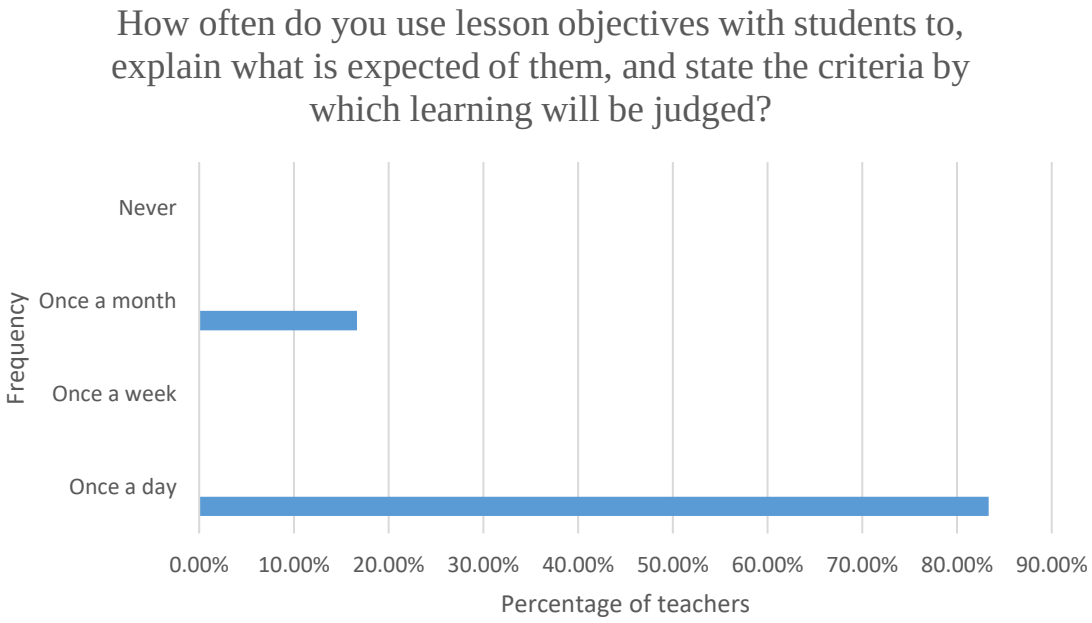


Figure 4. How often do you use checklists, anecdotal notes or other informal means of notating students' understanding of what's being taught?

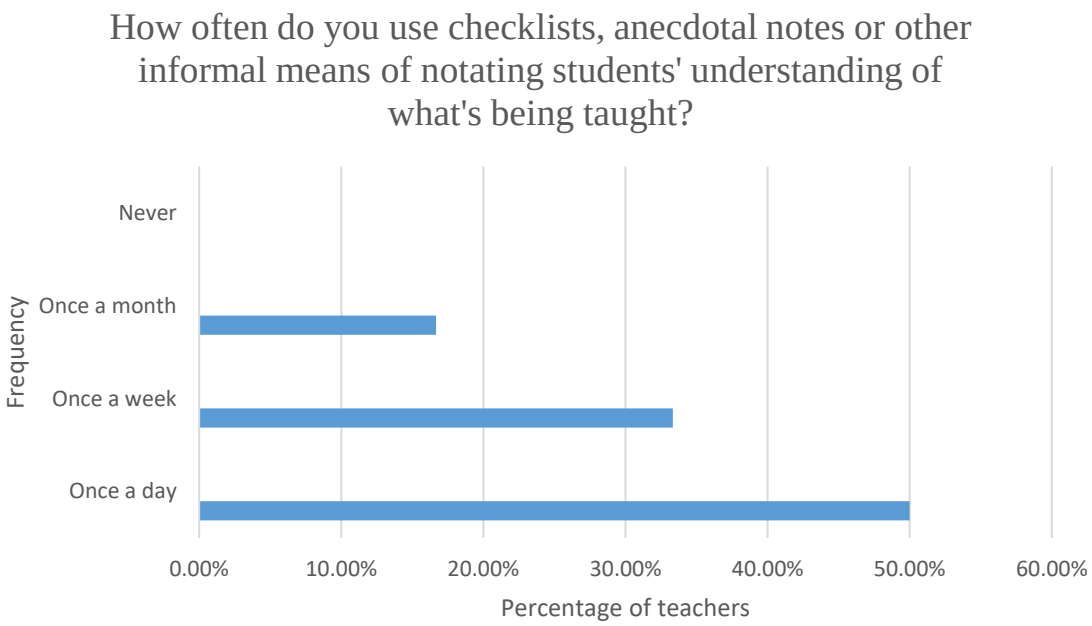
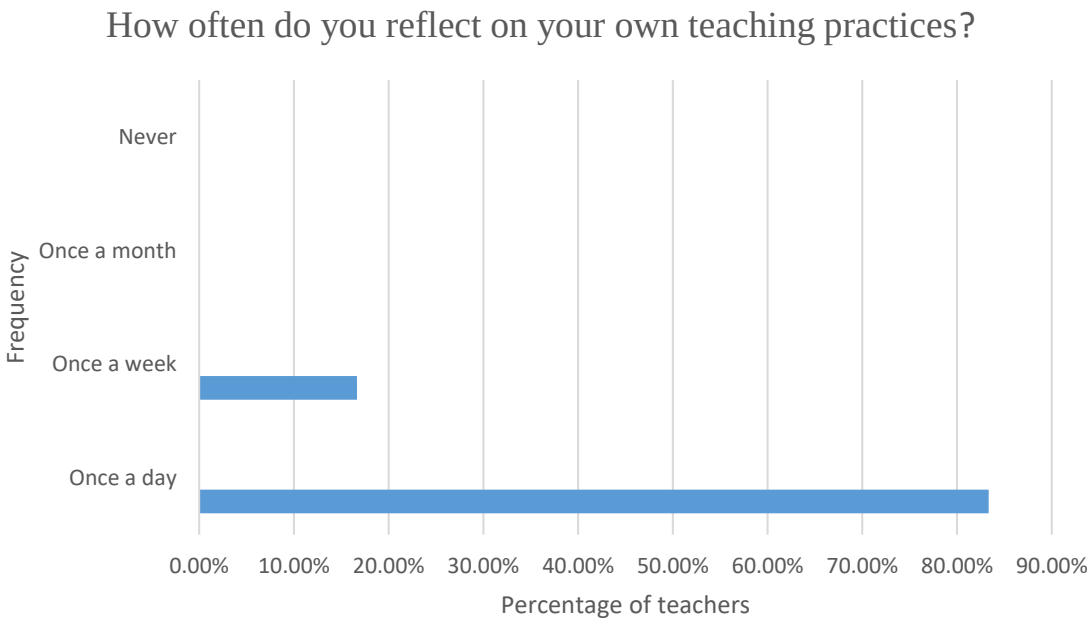


Figure 5. How often do you reflect on your own teaching practices?



Reflective answer results

Although the responses for each question varied in length and specificity there were more commonalities than differences noted within the responses. The first questions asked teachers "How do your classroom practices support formative assessment?" Seven out of the eight responses discussed how monitoring the student instruction allows for them to gain greater insight of understanding. One teacher stated, "I have students write every day after a lesson to incorporate what they learned from the objective." Another teacher noted, "If I notice a student is struggling I can quickly make an adjustment to delivery or re-teaching to meet that student's needs."

The next question asked teachers to provide examples of how they use formative assessment data to adapt instruction. Six out of the eight teachers talked about how they use data to form their reading or math small groups. They also commented that it helps them gage which students need more practice with certain concepts. "I form small groups based on the data. I consider each student's learning needs and adapt instruction accordingly." Another teacher stated, "If my students are not grasping the concept based on the data; I will reteach the lesson the next day in a small group or during individual conferencing."

The first two questions focused on using formative assessments. The next questions focused on what formative assessments they use besides the ones required. This question had the most differences noted within the responses. There was only one similarity noted in two teacher's responses. They both stated they use thumbs up and thumbs down as a quick check for student understanding of what was just taught. The other responses included, but were not limited to: think-pair-share, exit slips, post it

notes, running records and quizzes. It is possible that the variation in response to this question was due to the lack of understanding of what a formative assessment is. In retrospect, I should have provided the teachers with a definition of formative assessment to create a greater consistency in understanding.

In the next question, I asked how teachers provide timely feedback to students. The responses from this question also had large inconsistencies. Only two out of the eight responses discussed written responses and individual conferencing. The other responses vary from returning the next day or grading papers right away. After reviewing the responses, I think that responses were dictated by how the question was written or maybe teachers did not read the question fully. The question was written to analyze how teachers meet with students or give students feedback on their assessments, not just pass back the papers with a grade. I was trying to trigger a more sustainable structure for involving students within their own learning and data.

Providing timely feedback to students lends itself to the next question on how teachers know if students are engaged. The responses to this question were more in line than some of the others. All of the teachers mentioned participation and paying attention as the key ways to gage student engagement. None of them mentioned student involvement in work creation, data or contributions to instruction. This piece is the most critical for a successful formative assessment system and the component I thought was missing in our system. In my eyes, this question was the most important to my program evaluation because of its necessity for students' success.

The last two questions focused on what supports or resources teachers need, and if there is anything else I did not ask them. The general sentiment reflected the necessity for

creating new mini-assessments, more professional development on the development of assessments and the various types of formative assessments. None of those responses surprised me based on the implementation of this system that was done by District X. The honesty and openness of the response will lend itself to looking closer at those pieces.

Overall, the reflective pieces of the survey helped me see how the formative assessment system impacts teachers, students and instruction on a daily basis. It also gives me better insight into which pieces of that system are strong, and which ones needs more development and understanding.

Formative Assessment and MAP Data

The bar graphs seen in the figures below highlight the results from the mini-assessments and MAP data per grade and content strand. This graph tells us how student performance was measured in both assessments. For each chart the classes are labeled Class A or B along with the grade level in each of the following categories: Operations and Algebraic Thinking, Numbers and Operations, Measurement and Data and Geometry. The scores from the mini-assessments, or the formative assessments, are from 0-4 and labeled from low-high based on MAP.

The data from each content strand and grade varied. The MAP test is given three times a year: Fall, Winter and Spring. I am using the Spring data. After reviewing some of the mini-assessment questions they did not match the depth and structure of the questions on the MAP. I would have assumed the data would show some variation and patterns on the MAP because of the lack of problem solving and intensity of questioning on the mini-assessments.

Grade 2 shows higher scores on the mini-assessments than the MAP test. (See Figure 6-13) for each of the content strands. For the Operations and Algebraic Thinking portion, most students received a 4 (a high score) on the mini-assessments; however, for the MAP test, the majority of students received a 0 (low category) in Class A and are spread out among all of the categories for Class B. The mini-assessments tended to have students clustered toward the scores of 3 and 4 while the MAP results had a wider variation of students spread across all categories. For Numbers and Operations, Data and Measurement, and Geometry, a similar pattern exists with some variation as to the most frequent score for the MAP test.

These results could be because of several factors. The first factor is that students in second grade take MAP for the first time on a computer whereas; the mini-assessments are taken with paper and pencil. Some of the results on the MAP could be a result of lack of computer skills rather than conceptual understanding. The other factor is the order in which the skills are taught and assessed. Most of the numbers and operations skills are taught later in the year and the main focus is money, elapsed time and measurement. The prerequisite skills of adding, subtracting, multiplying and dividing are not introduced until February which could affect the student's ability to answer the questions effectively on the MAP test because of the lack of number sense and basic skills.

Figure 6. Grade 2, class A—operations and algebraic thinking.

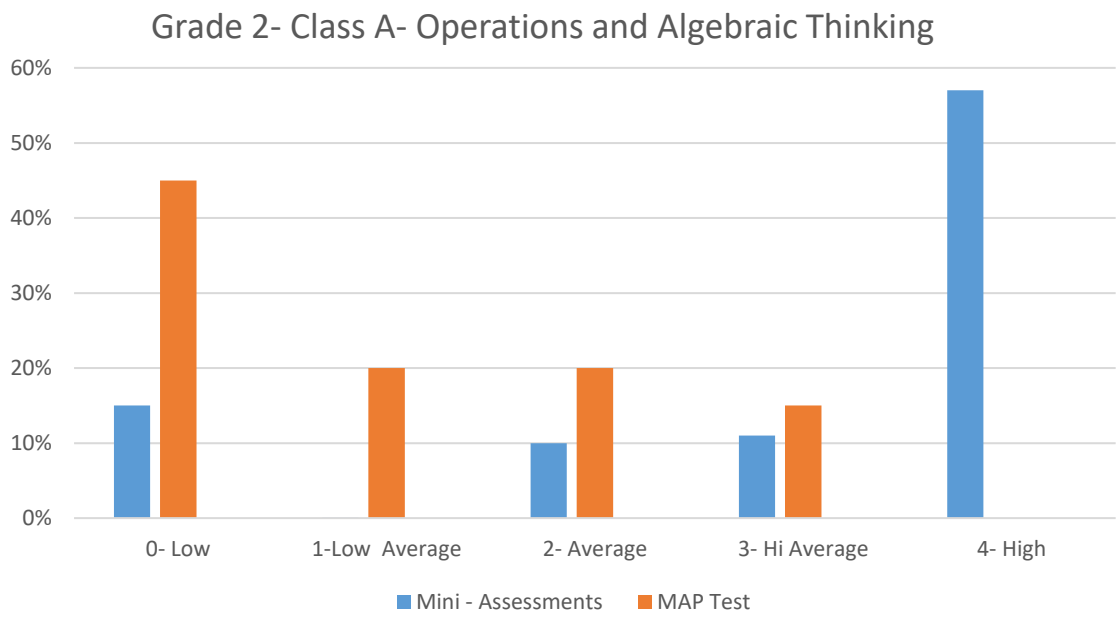


Figure 7. Grade 2, class B—operations and algebraic thinking.

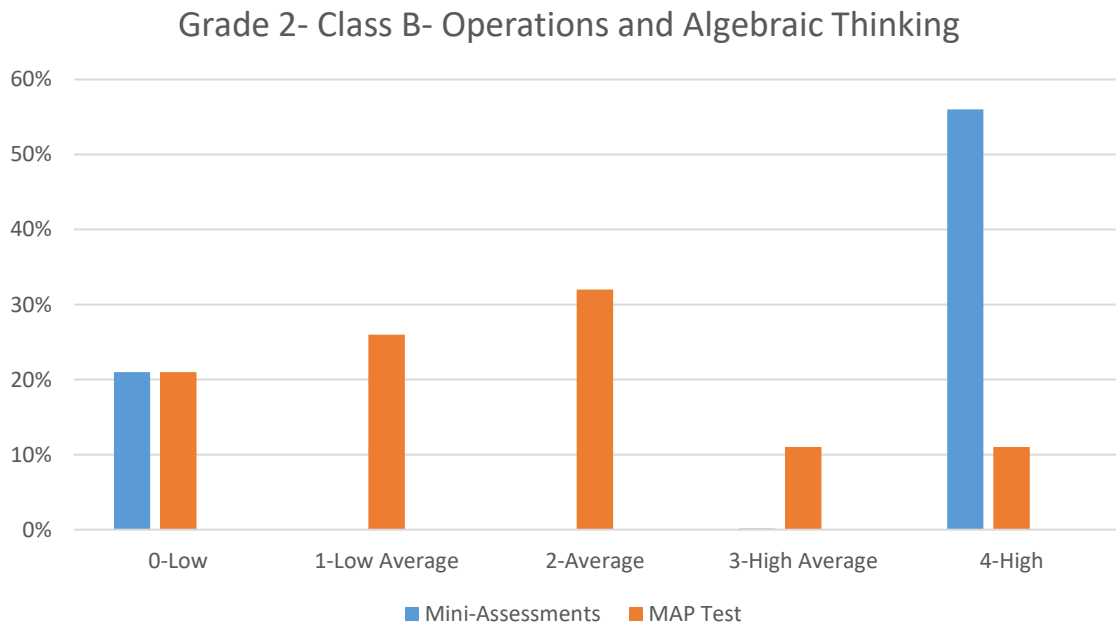


Figure 8. Grade 2, class A—numbers and operations.

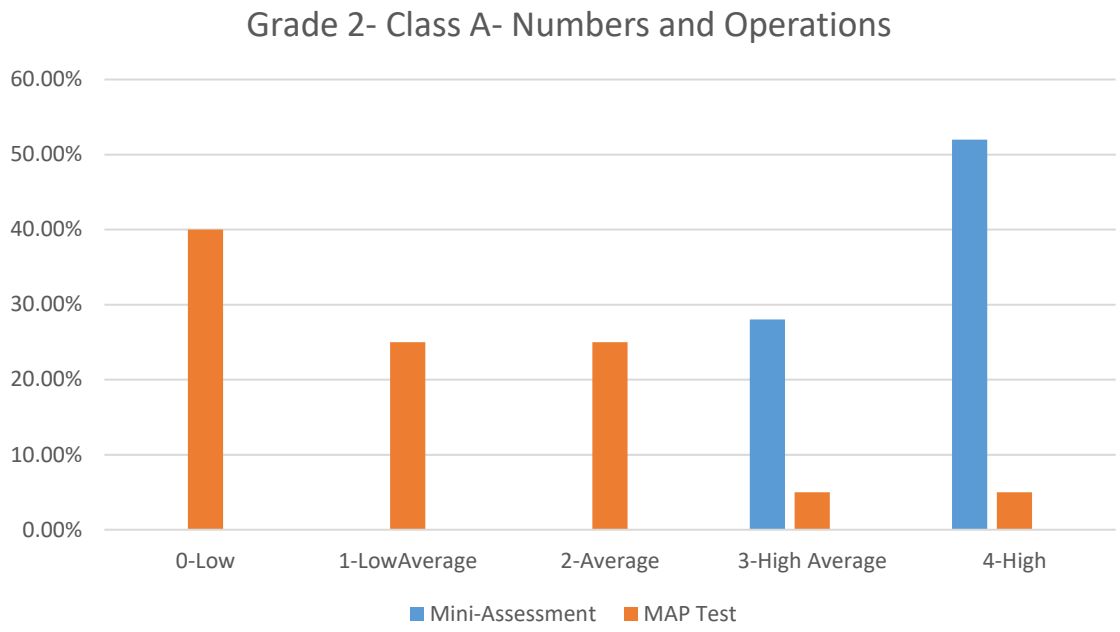


Figure 9. Grade 2, class B—numbers and operations.

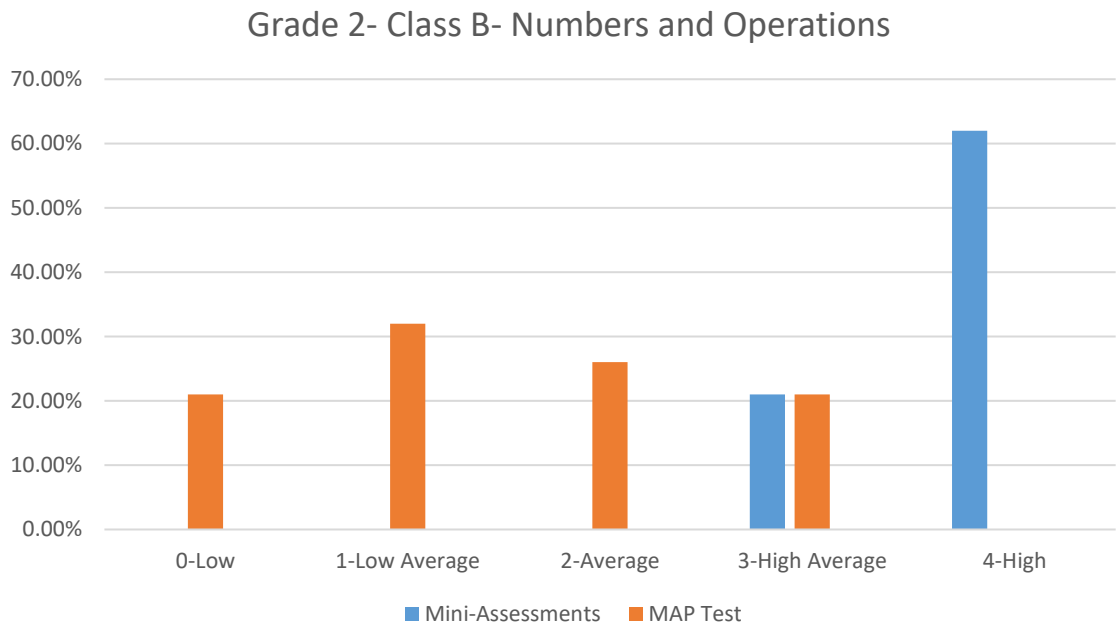


Figure 10. Grade 2, class A—measurement and data.

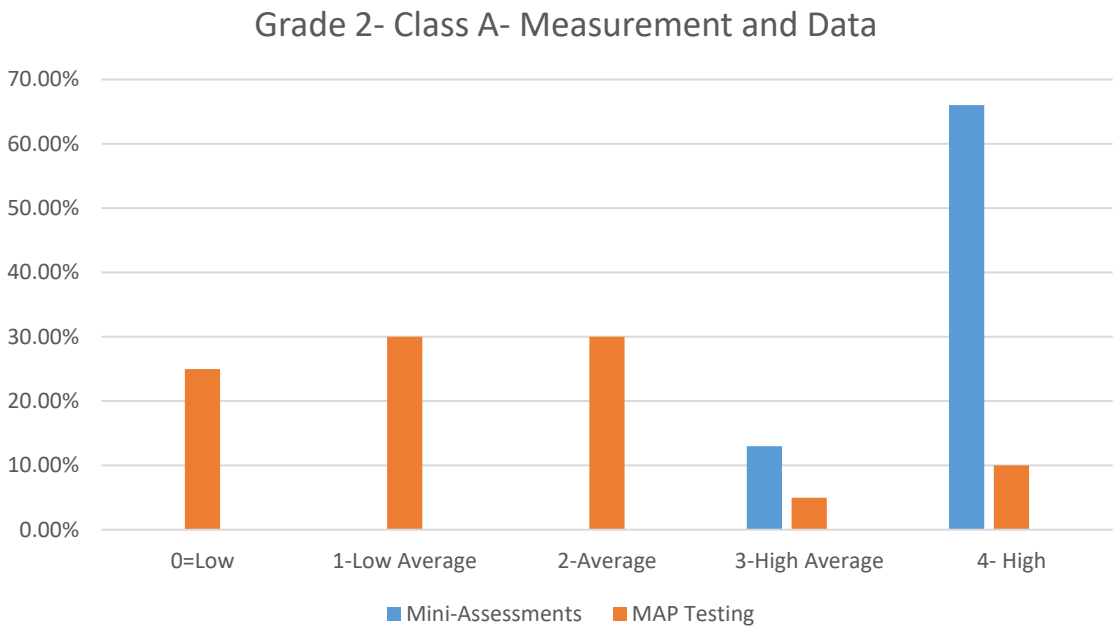


Figure 11. Grade 2, class B—measurement and data.

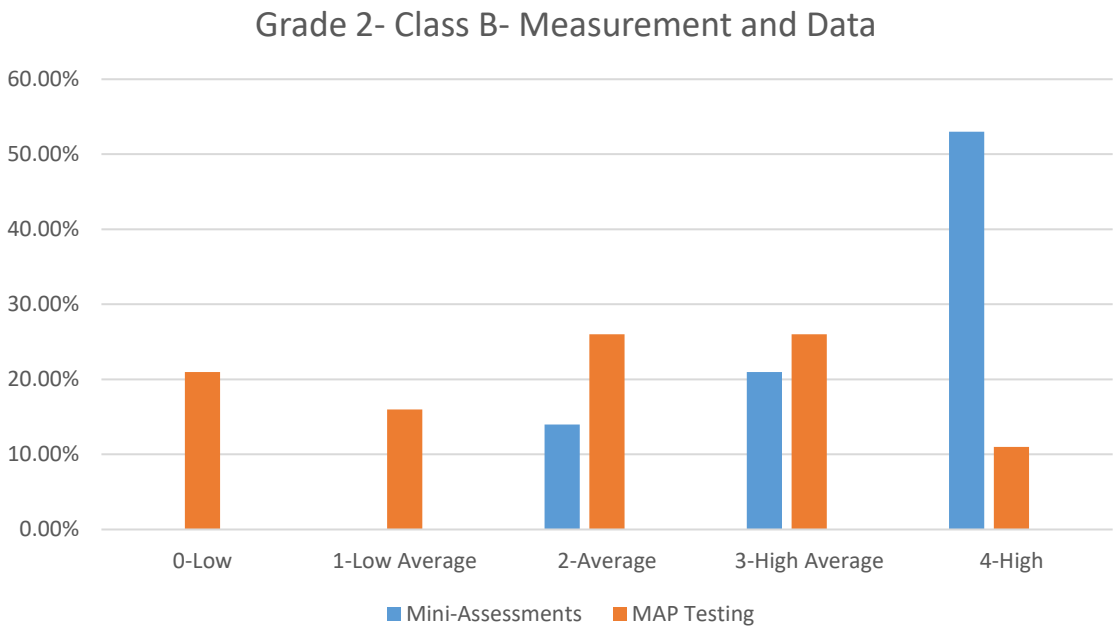


Figure 12. Grade 2, class A—geometry.

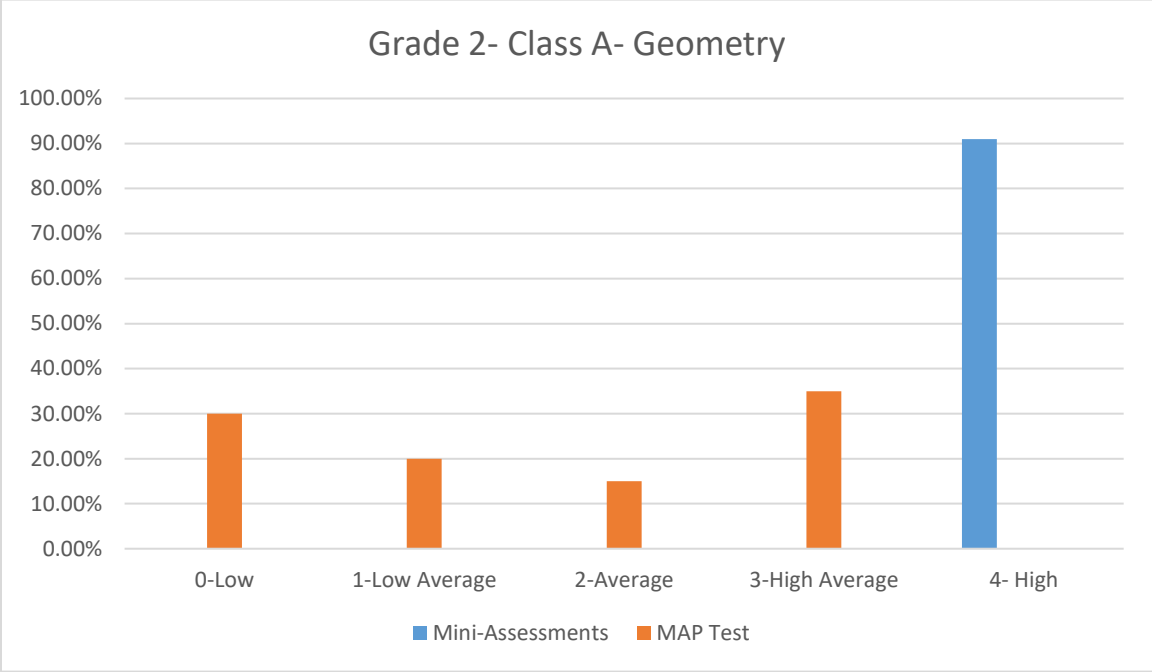
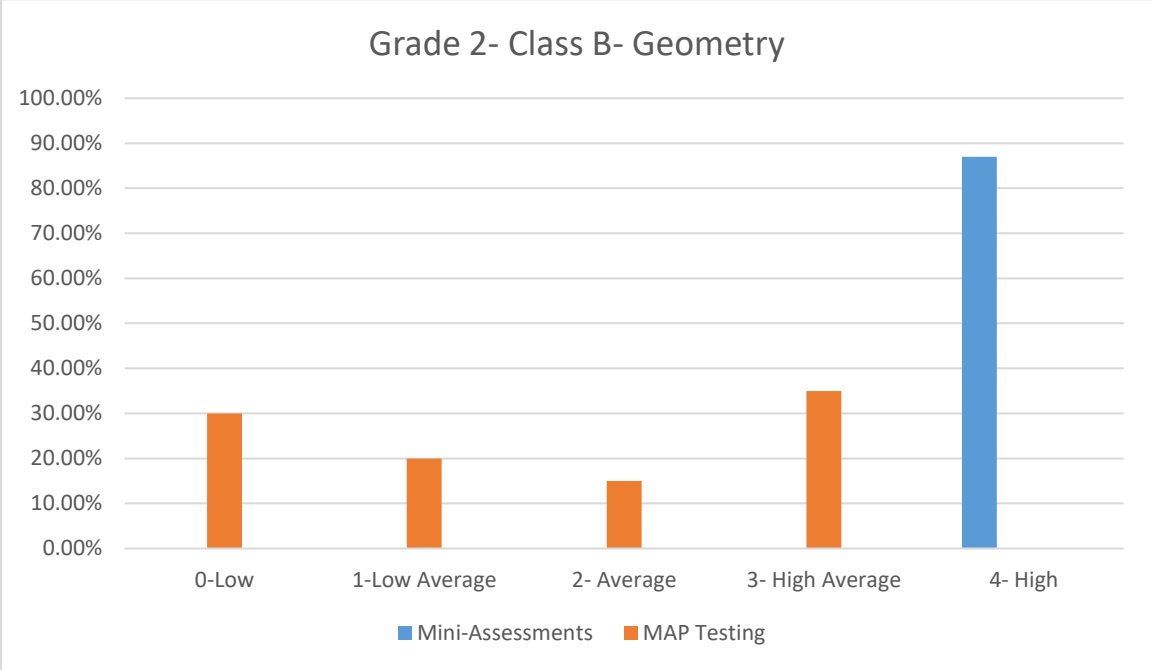


Figure 13. Grade 2, class B—geometry.



For the 3rd Grade test comparison (see figures 14-21) for each content strand are included below. On the mini-assessment, most students receive an average or below score (i.e. 3 or less), whereas for the MAP test the majority of the students are in the low to low average category in Class A and B. However, unlike 2nd Grade the two assessments were somewhat more aligned. There are some high average and highs on MAP in the categories of Measurement and Data and Geometry; a similar pattern exists with some variation as to the most frequent score on the MAP test.

The results are mixed for MAP and the mini-assessments in 3rd Grade, which brings about two possibilities. One possibility is that, students are already familiar with the layout, questioning and computer skills necessary to navigate the MAP test because they did is already in 2nd grade. The other possibility is that 2nd grade teaches the prerequisite skills later in the school year with multiple months of practice and reinforcement so that students come ready in 3rd grade. Having the arsenal of prerequisite math skills allows for new concepts to be mastered faster.

Figure 14. Grade 3, class A—operations and algebraic thinking.

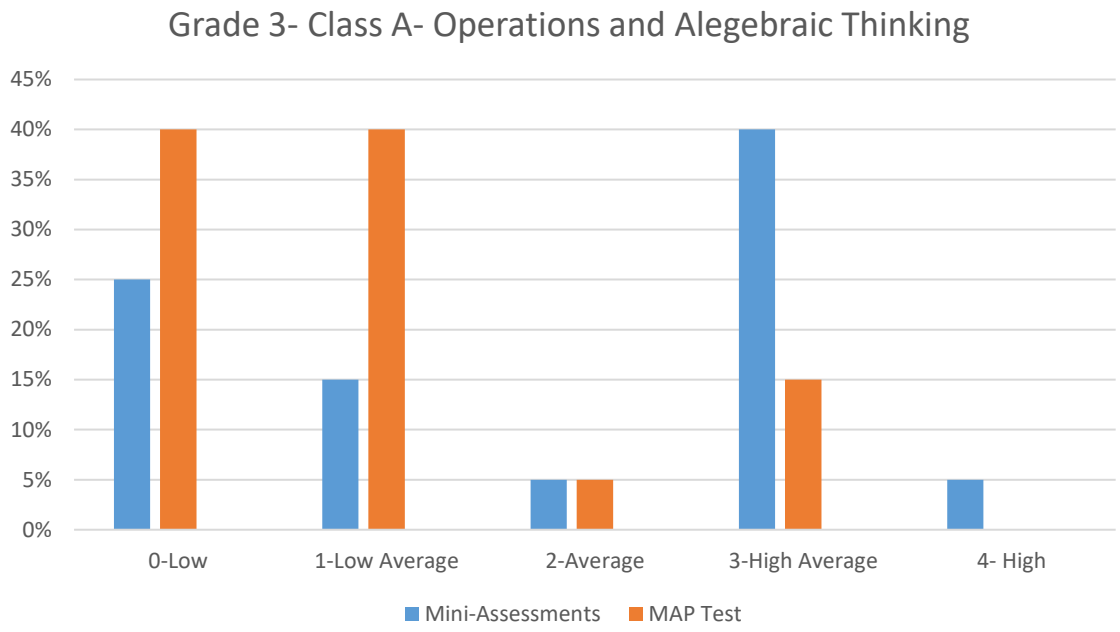


Figure 15. Grade 3, class B—operations and algebraic thinking.

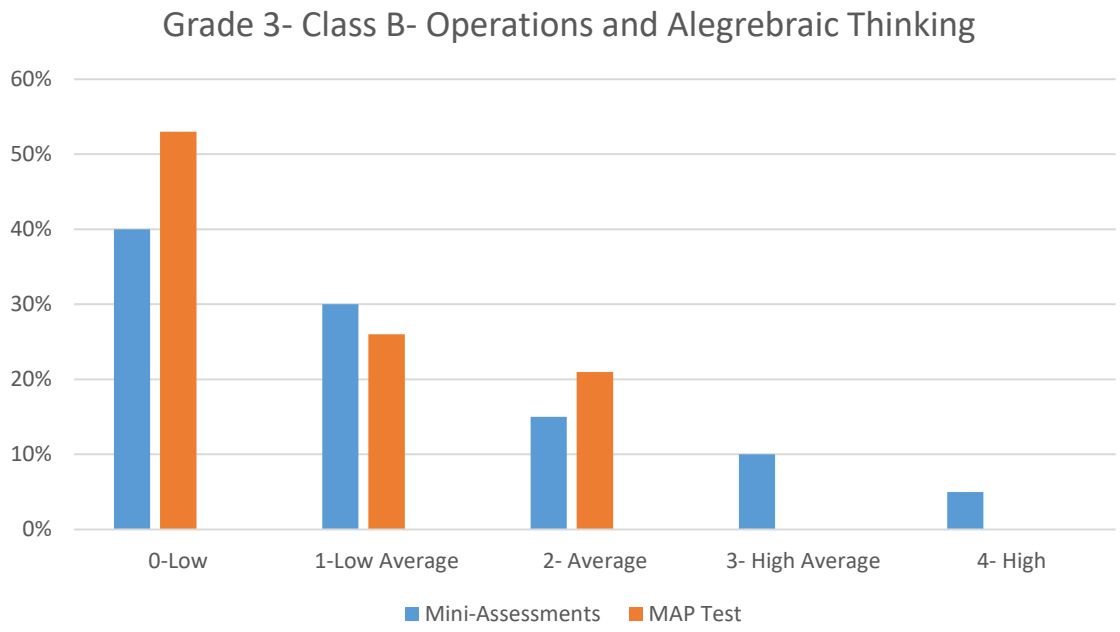


Figure 16. Grade 3, class A—numbers and operations.

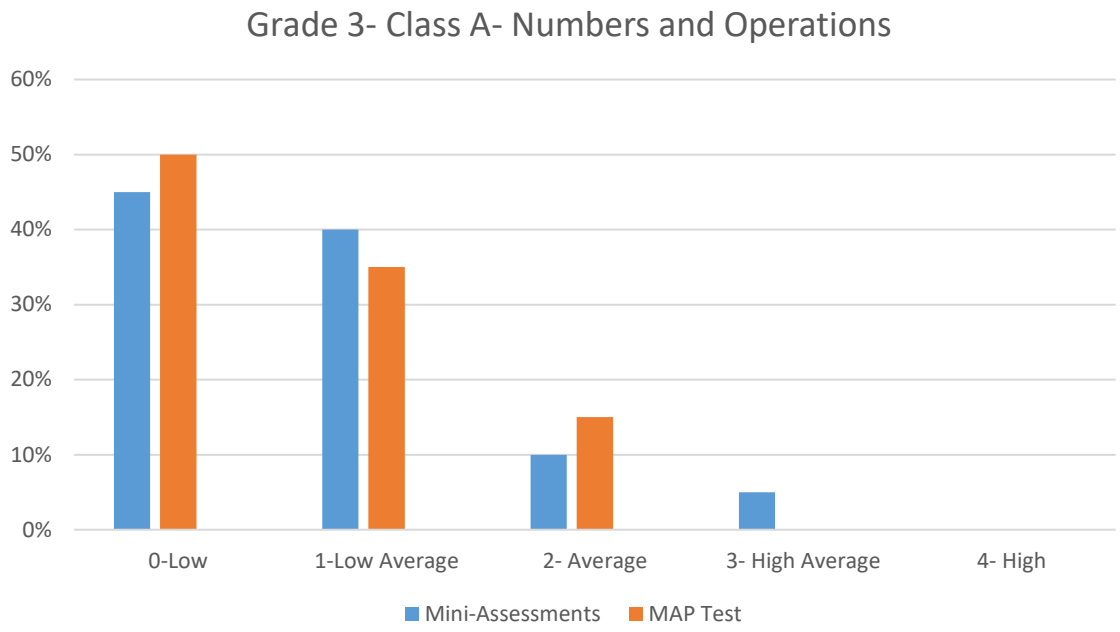


Figure 17. Grade 3, class B—numbers and operations.

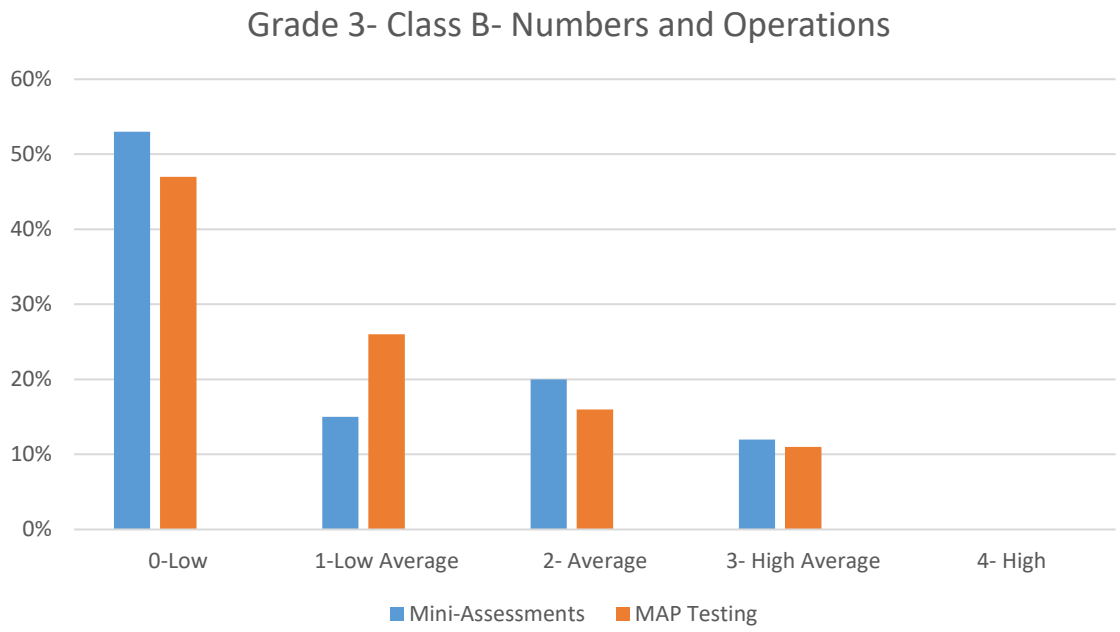


Figure 18. Grade 3, class A—measurement and data.

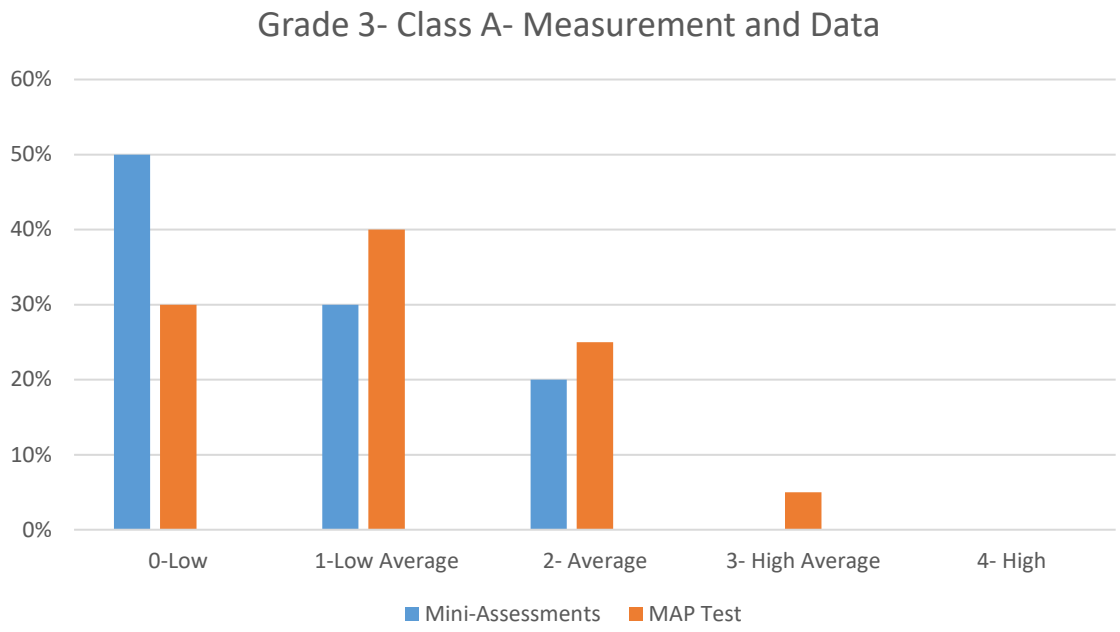


Figure 19. Grade 3, class B—measurement and data.

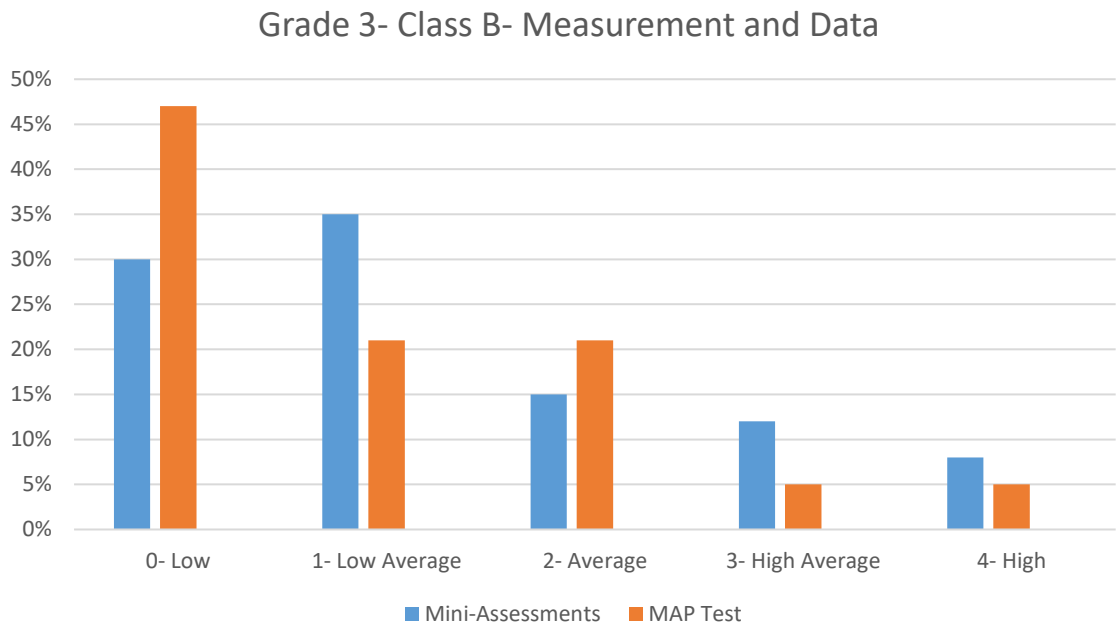


Figure 20. Grade 3, class A—geometry.

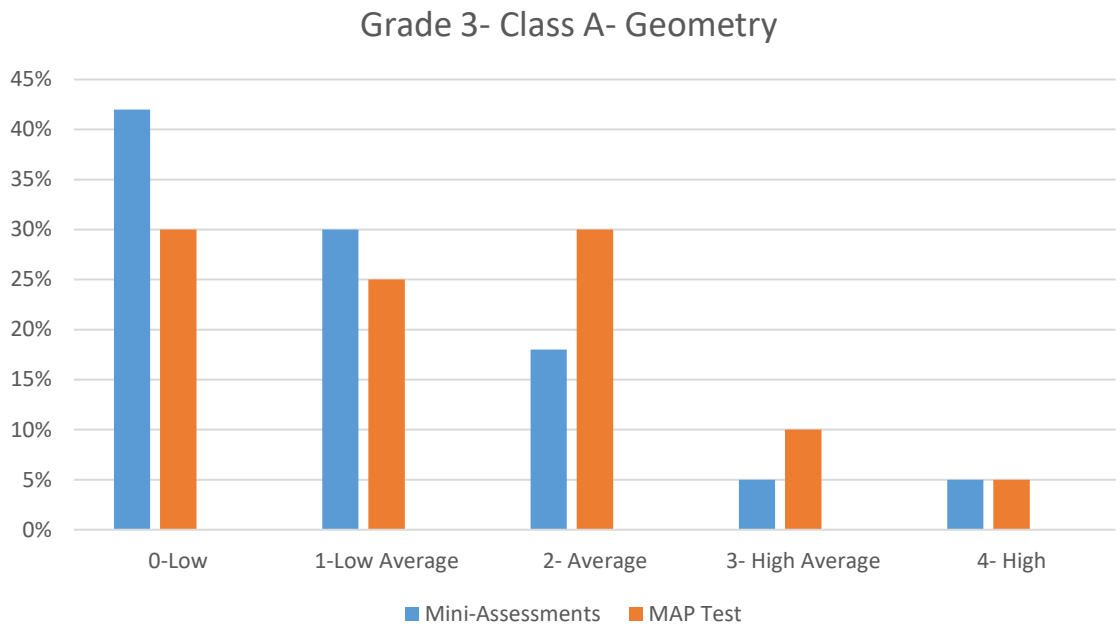
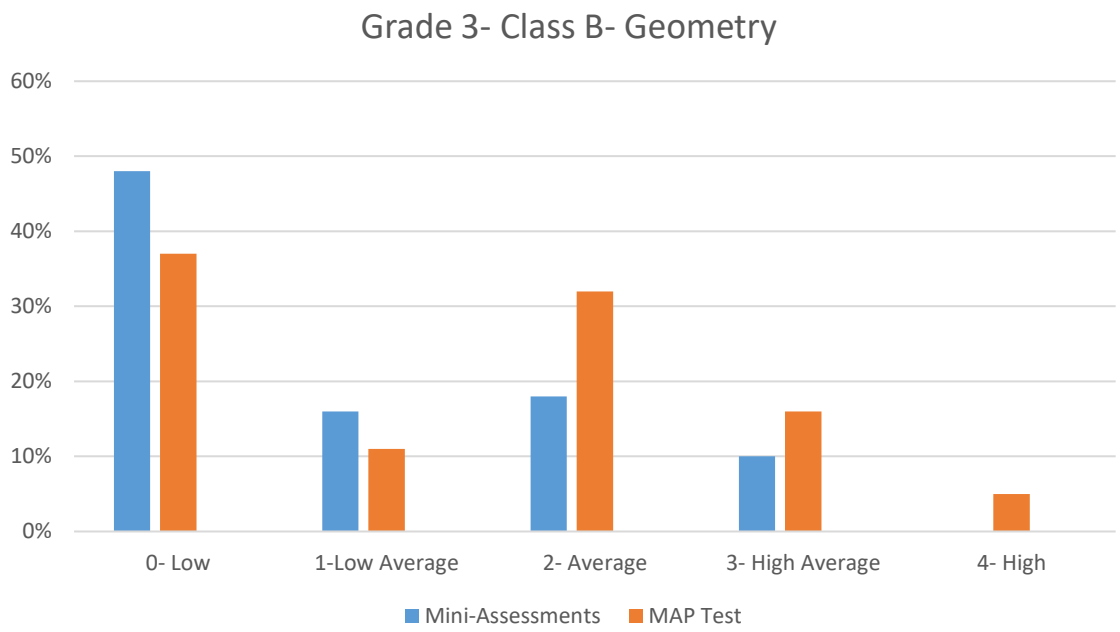


Figure 21. Grade 3, class B—geometry.



Using the same mindset as 3rd Grade, I examined 4th Grade (See figures 22-30) for each content strand. On the mini-assessments, most students receive an average, high average or high, with the exception of Measurement and Data and Geometry. For the MAP test the majority of students are in the low-average category, a similar pattern exists with some variation as to the most frequent score for the MAP test.

The scores seemed to be mixed on the majority of the content strands for MAP and the mini-assessments. Again, they have mastered the navigation of the MAP and students have come with pre-requisite skills. However, operations and algebraic thinking showed a substantive difference between MAP and the mini-assessments. Due to the discrepancy, I reviewed the questions on the mini-assessment and the ones on the MAP test. The difference noted was the complexity and application of questioning on the MAP and the simplicity of the ones on the mini-assessment. The standards within that strand have multiple components which were only addressed on the surface with the mini-assessments, but were more complex on the MAP test. This was not the case with 2nd and 3rd grade mini-assessments because of the multi-step questioning and complexity necessary for 4th grade.

Figure 22. Grade 4, class A—operations and algebraic thinking.

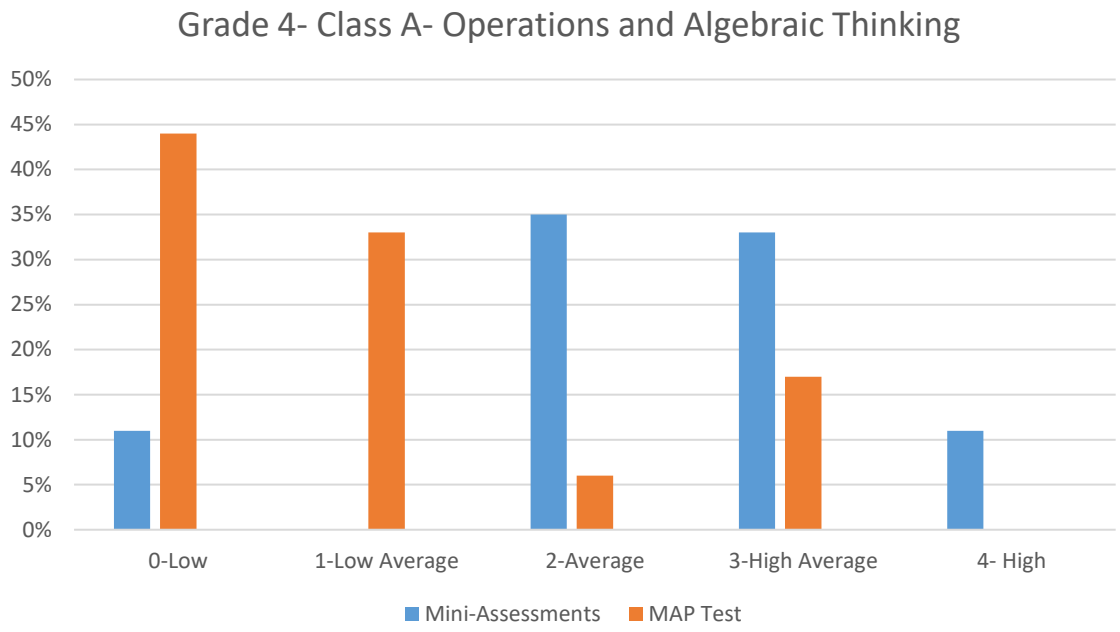


Figure 23. Grade 4, class B—operations and algebraic thinking.

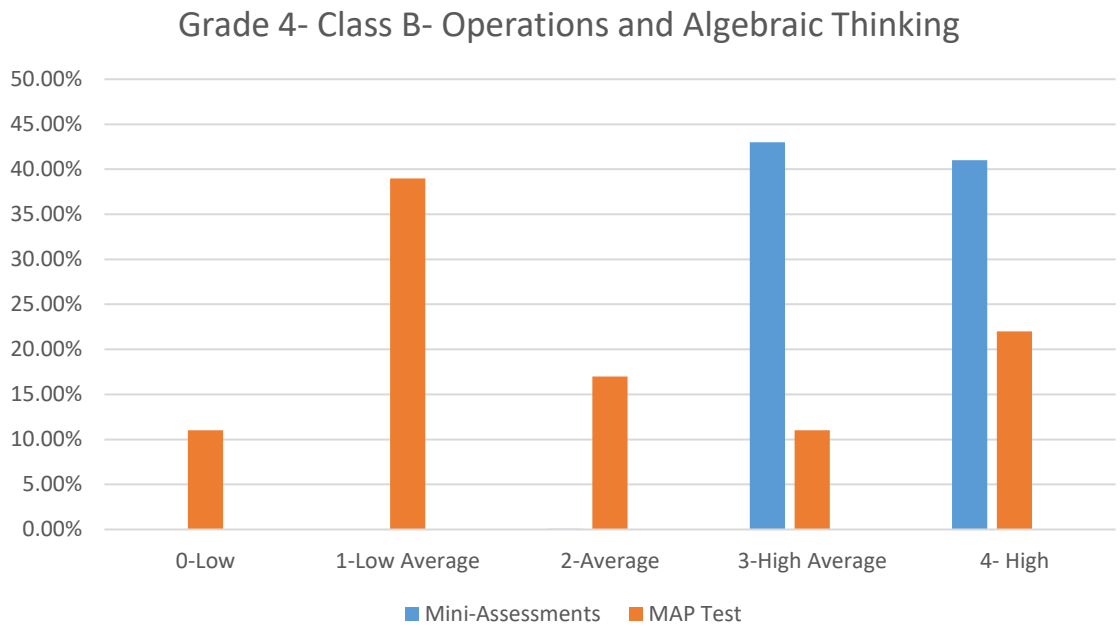


Figure 24. Grade 4, class A—numbers and operations.

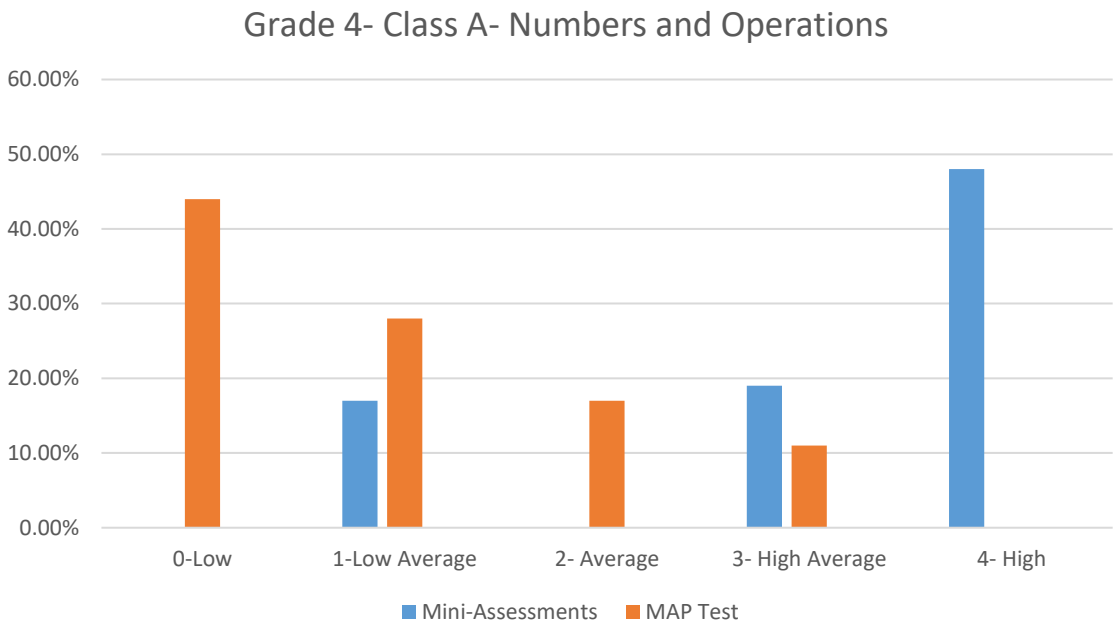


Figure 25. Grade 4, class B—numbers and operations.

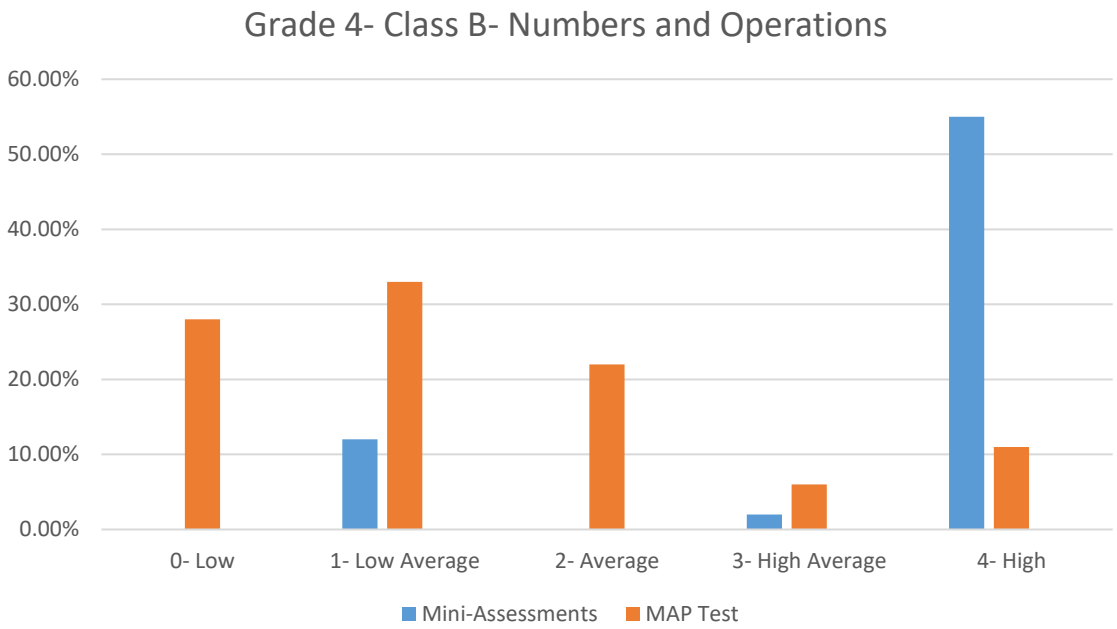


Figure 26. Grade 4, class A—measurement and data.

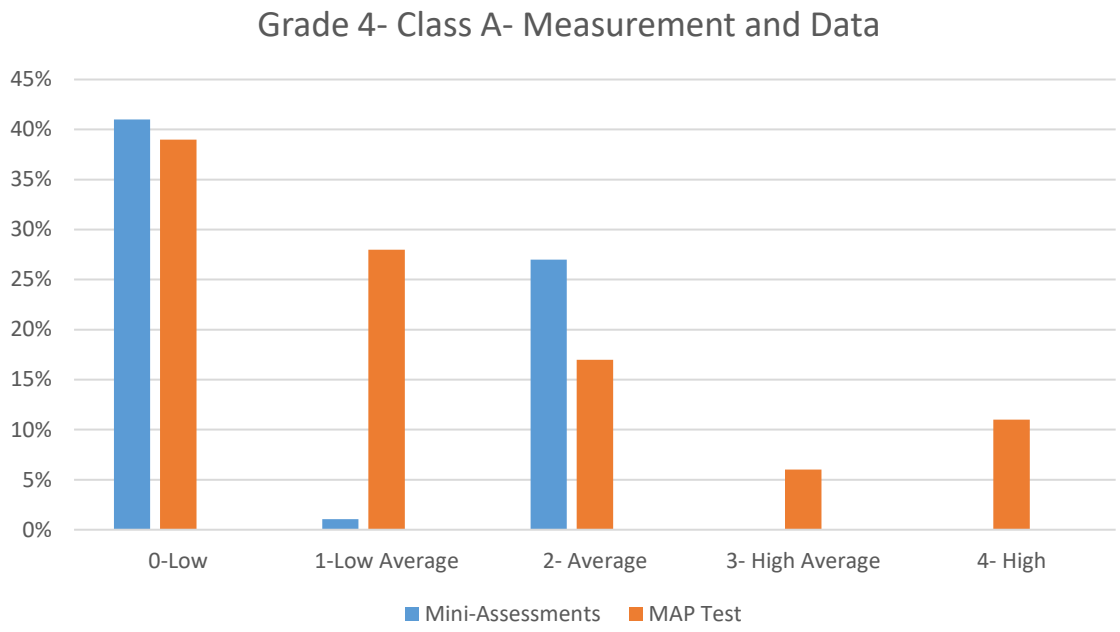


Figure 27. Grade 4, class B—measurement and data.

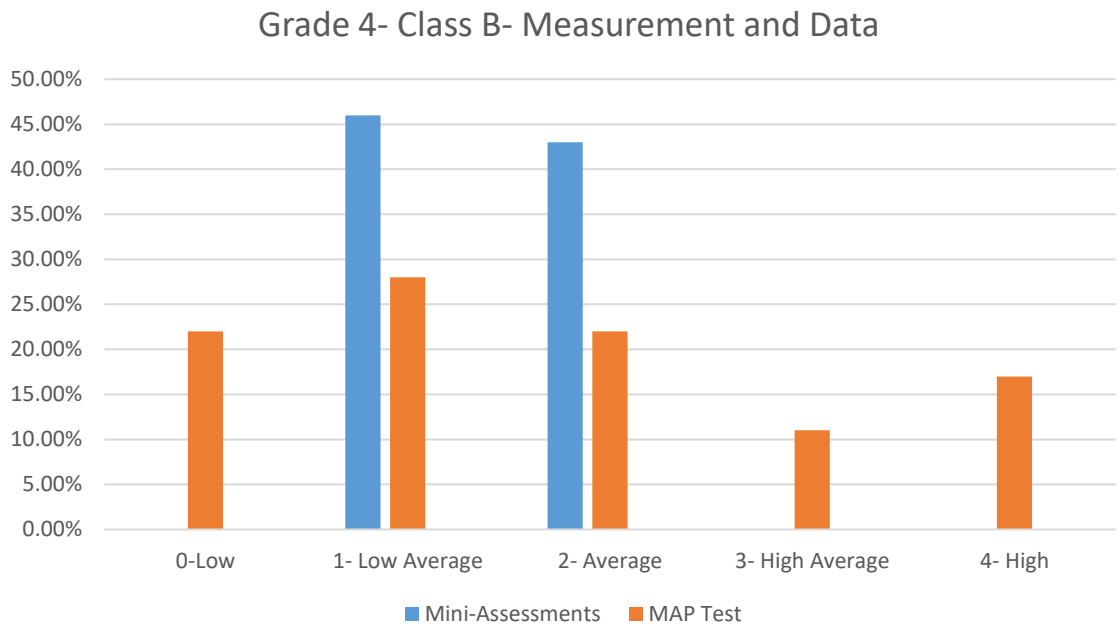


Figure 28. Grade 4, class A—geometry.

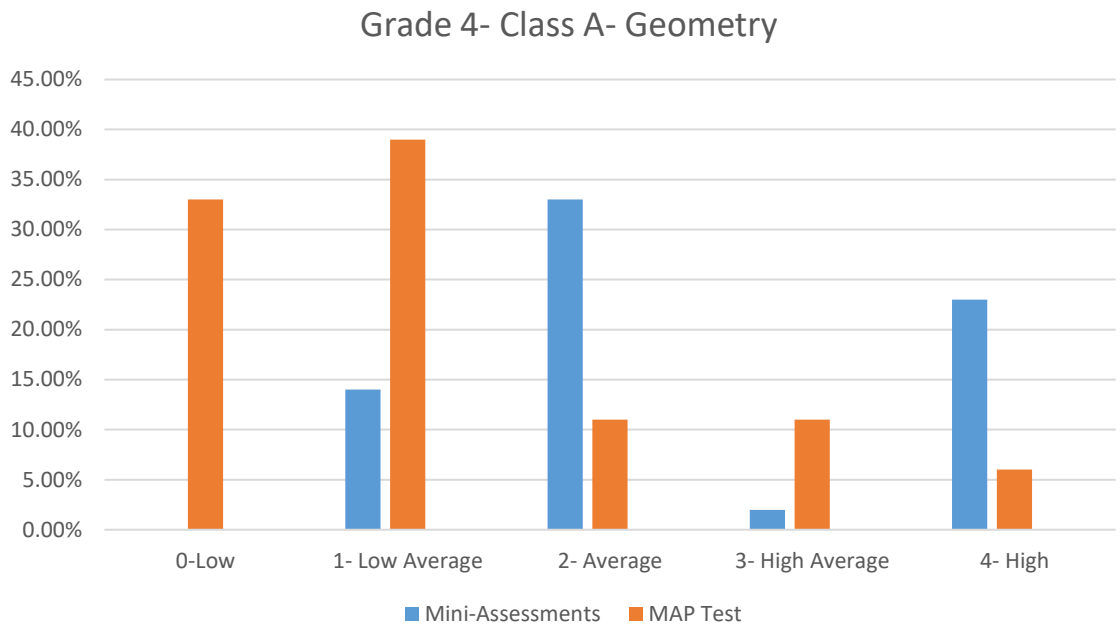
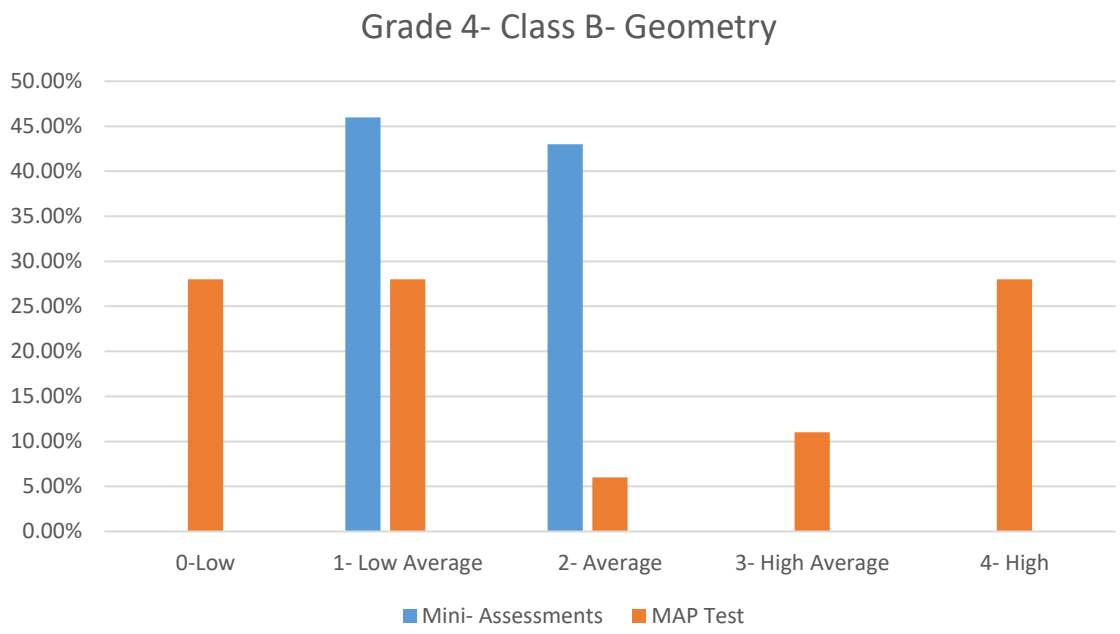


Figure 29. Grade 4, class B—geometry.



The 5th Grade scores are compared in figures 30- 36. On the mini-assessments, most students receive an average or lower score, except for Geometry. Whereas, on the MAP test the majority of students received an average to high score except in the area of Measurement and Data.

The results were most closely aligned for the mini-assessment and MAP test. However, this grade seemed to have the highest scores overall on the MAP test. Of course, I can use the same theories that the students were proficient on navigating the system and that they came into 5th grade with the prerequisite skills. However, after further review of both assessments I found that the students were very high in the class in 2015. The previous year MAP scores showed approximately the same data. I am not negating the teaching nor learning that took place, but this cohort has received significantly high scores since 2nd grade.

Figure 30. Grade 5, class A—operations and algebraic thinking.

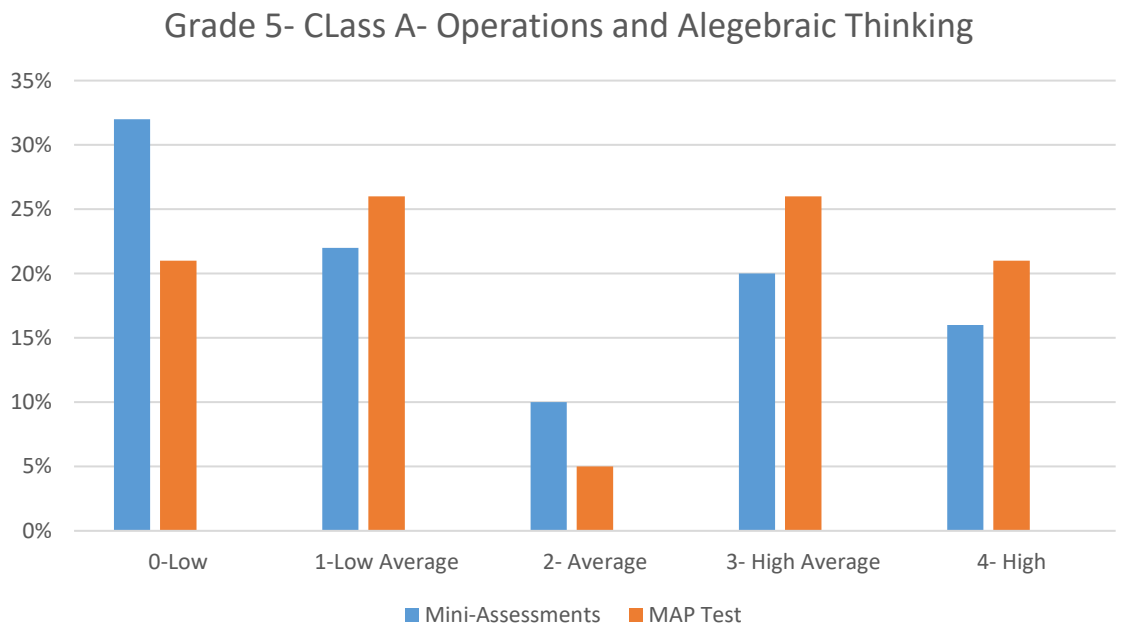


Figure 31. Grade 5, class B—operations and algebraic thinking.

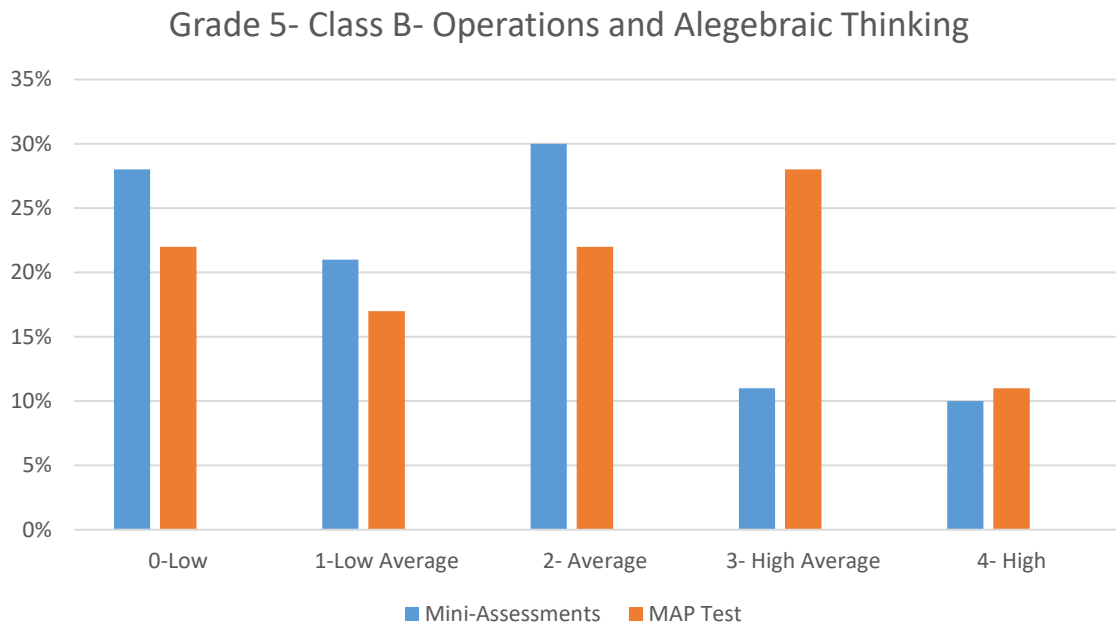


Figure 32. Grade 5, class B—numbers and operations.

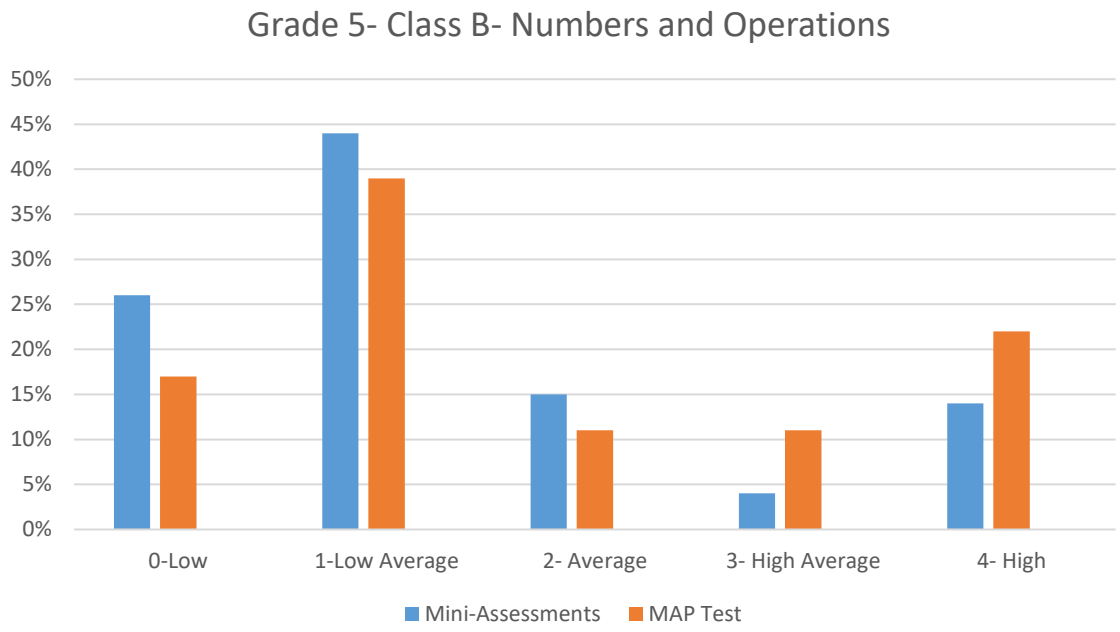


Figure 33. Grade 5, class A—measurement and data.

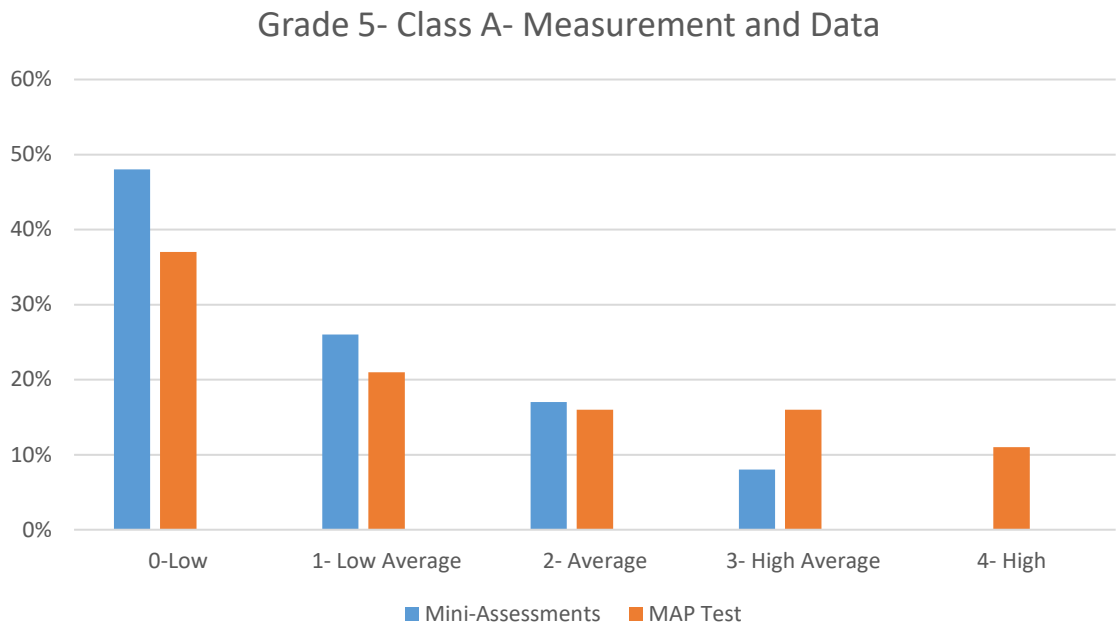


Figure 34. Grade 5, class B—measurement and data.

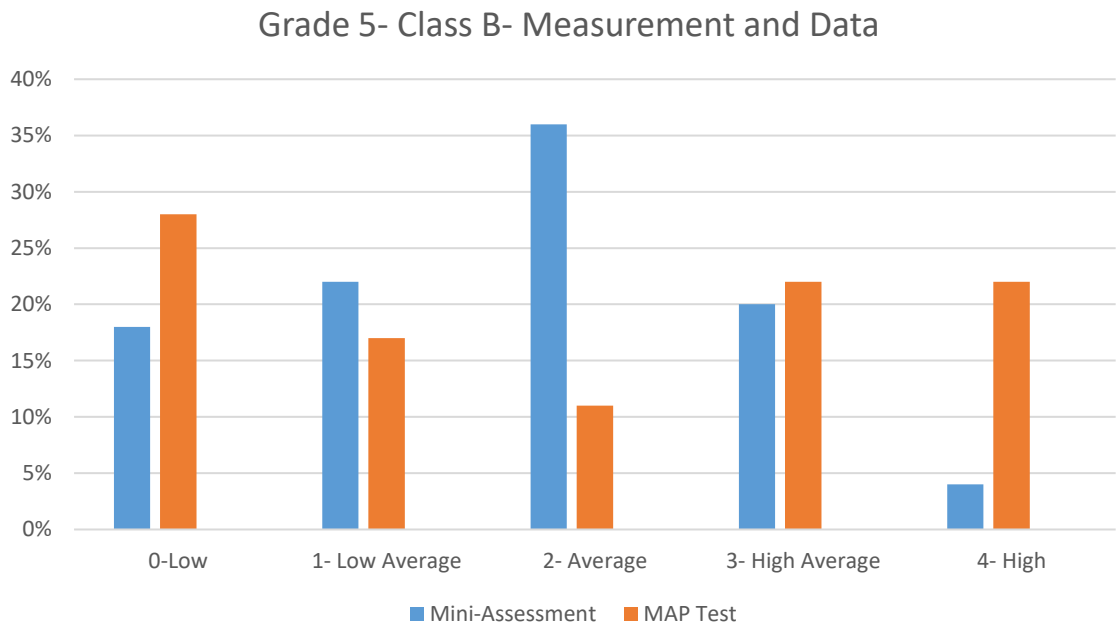


Figure 35. Grade 5, class A—geometry.

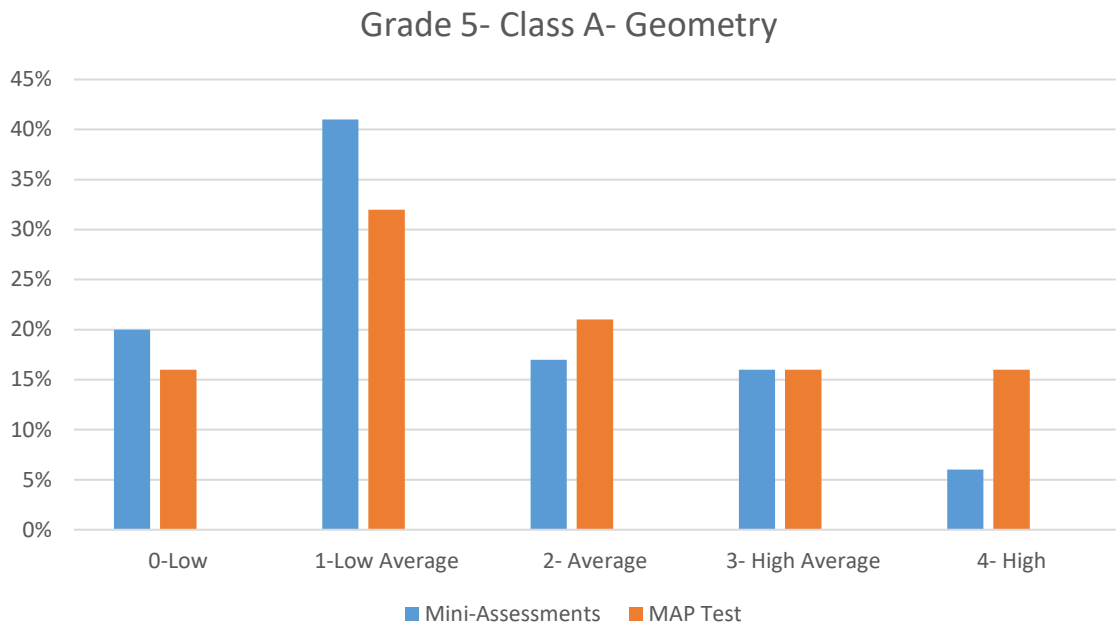
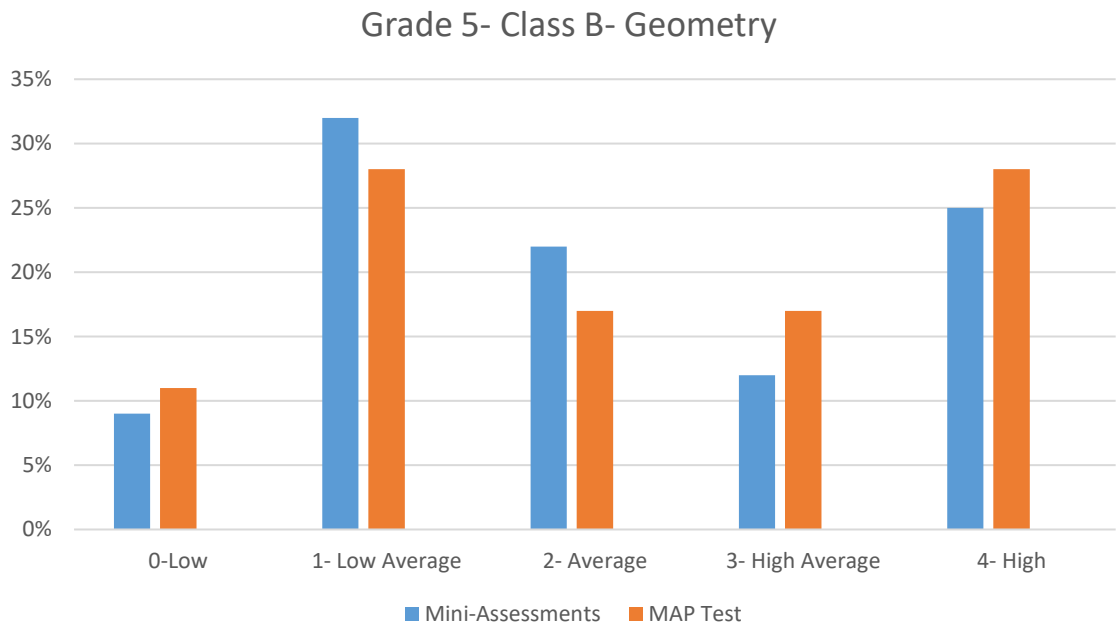


Figure 36. Grade 5, class B—geometry.



The mini-assessments and MAP data tend to be more alike in Grade 4 because of the reciprocal standards addressed in these grades levels with approximately the same amount of rigor. Whereas, in Grades 3 and 5 some of the standards are new and involve multi-step processes with additional rigor. This could explain some of the data results, and not just a function of taking the test.

All of this data gave me a new perspective on the importance of an effective formative assessment system and its impact on standardized tests. Both data sets for MAP and mini-assessments are important to determine their effectiveness in preparing teachers and students for the state assessments; however, there are key differences which can account for the gaps in scores. Mini-assessments are written by teachers, and students take the tests using paper and pencil. On the other hand, the MAP is a computer-generated test with standardized questions closely aligned with the PARCC assessment. One assessment is not better than the other, rather, they are devised to gage and monitor student learning to impact teacher instruction. The cognitive skills necessary to perform well on the MAP and PARCC assessment are twofold. First, the student must understand what is being asked. Second, the student must understand what steps need to be taken to answer that question. These questions do not have one correct answer, but sometimes multiple answers with several ways to get to that answer. Justification, written response and problem solving need to be included in the answers for them to be deemed correct. The mini-assessments are meant to help prepare students for the MAP/PARCC test; therefore, would we want the mini-assessments to be aligned as much as possible to the MAP test.

It is also important to note the differences in the makeup of learners in each classroom. First, I examined class size, where I found no large differences. When it came to race, there was no large difference either; all classes had an even balance of Hispanic, African American and Caucasian students. The last area I checked was the balance of English Language Learners and Special Education students. As I began to dig deeper into these categories I found that one classroom in each grade had the majority of the ELL learners because the classroom teacher was ESL certified and qualified to meet the students' needs. As the building principal, it allows me to see where the needs are and how to provide additional supports to the classrooms. One particular area is noticing that the mini-assessments may cover the same concepts but not with the cognitive demand necessary to master that standard, or identifying the major differences between the quality of formative assessments given per grade level. This allowed me as the building administrator to identify these key components so they can be addressed by grade level.

SECTION FIVE: JUDGEMENTS AND RECOMMENDATIONS

This program evaluation gave me the opportunity to examine the components of our formative assessment system in District X. Effectively utilizing formative assessment to inform teacher instruction and student engagement is the ultimate goal for all schools. Student achievement and high standardized test scores is the recipe for any successful school and is scrutinized by the state, district and community formally and informally. We have some work to do in District X with the structure and components within the formative assessment system. The teacher survey showed many differences within the instructional practices and utilization of the formative assessment system. The differences noted were based on the frequency of formative assessments and how instruction changed based on the data collected. In the classrooms where assessments were given more frequently teacher responses to questions on reflection and data driven instruction were more strategic and included various teaching methods, a multitude of resources and instructional approaches.

While conducting this program evaluation, I found some very positive results within the data. Students were performing well on the MAP assessments given three times a year based on the new implementation of the Common Core Standards in some classes in some grades. Teachers were frequently instructing and assessing students using the mini-assessments to monitor learning. Students were exposed to multiple assessments with different frequency and in different formats. Questions on these assessments varied from critical thinking to basic computation with extended responses. By being exposed to varying assessments, students learn how to be better test takers.

There were some negatives noted based on the results of my program evaluation. It was apparent that the questions used for the mini-assessments were more skill and drill without multiple stepped problems or critical thinking that are used in the MAP questions. The mini-assessments frequency when compared to MAP may have put students at a disadvantage because of the lower level thinking necessary to do well on the mini-assessments. In turn, the instruction teachers provided for these skills may have reflected more on the mini-assessments than on the rigor that MAP and PARCC demand. The mini-assessments were also written by teachers lacking defined knowledge of the Common Core Standards of rigor.

Moreover, accidently while conducting this program evaluation, I found that teachers seriously lacked the necessary skills to teach mathematics to the rigor that was necessary for achievement. This was discovered by reviewing the formative assessments written, and doing classroom observations. Although teachers presented information and gave assessments on it, they lacked the ability to convey the content. Teacher reflection was non-existent because they were not familiar enough with the standards to use the data that was collected to change their instruction; they only knew one way to teach it.

In reflecting upon these results, I found that as a system we failed the teachers and students. Incorporating a formative assessment system is a valuable equity when it is done in a strategic manner, meaning that all the pieces are included for a successful system: formative assessment, teacher instruction and student engagement.

I used this information (the positives, negatives and accidental findings) to form my recommendations for improvement. I recommend providing more support on a comprehensive understanding of formative assessments: what it is, what it looks like and

how it can be utilized effectively within the classroom. I would conduct a School Improvement Day with teachers to focus on ways that formative assessments can be used. I want the ideas to be generated by teachers so that they can be easily incorporated into their classroom. We can then create an outline on how a formative assessment system works within a teaching cycle. For example, teach the skill for three weeks, and then give the students the assessment. Next, the teacher reviews the data, shares it with the class, and then individually conferences with students on their data. Generating ideas and creating a plan for usage will ensure consistency and urgency for implementation.

I would then have teachers participate in some professional development on how to effectively teach math with rigor to match the Common Core Standards. This is the most critical piece of the puzzle because instruction affects what is learned and how it is learned. I would offer teachers to go into other classrooms to watch teachers that teach the math concepts with rigor. This will open many doors not only for collaboration, but a school-wide approach to using the same math vocabulary and teaching strategies. Once there is a clearly defined mutual understanding of the terms and its usage, I would focus on the area of student engagement.

It is clearly evident in the responses that students are not engaging with the curriculum, instruction and data. If teachers cannot define what student engagement looks like how can they engage students in the learning process? I would provide more professional development in student engagement within the areas of curriculum, instruction and data. This may be in the form of videos from Ed Leadership or a book study on engagement. I would also provide some practical tips on how students can monitor their own learning using a bar graph or self-reflection rubric. The graph I will

provide will be universal and used in all grades so that students and teachers can become familiar with the expectations. Student conferencing will also be a topic for discussion. I will provide examples of what this looks like, how this can be built into a schedule and sample questions used to lead the conversations.

The insight of teachers was a powerful piece of this program evaluation to explain the process, but the data lends itself to further conclusions. The teacher- created mini-assessments were used to help ensure the monitoring of students during the learning process. The thinking behind this was to ultimately prepare them for the PARCC assessment given towards the end of the year. After examining the data from the mini-assessments and MAP I found major discrepancies in how the students are tested. For one, the mini-assessments are written by the teachers using only the standards given. In some instances, the mini-assessments do not meet the criteria for depth and higher-order thinking but skim the surface of the standard. Most of the mini-assessment are not multiple steps or do not effectively measure students' ability to problem solve. In order to accurately measure student's ability on the mini-assessments and MAP, the mini-assessments need to be re-written to match the skills of the MAP tests. This process could not happen overnight, but can be a work in progress to achieve success.

I want to develop my recommendations around what can be changed to make the formative assessment system more effective. My recommendations focus heavily on teacher instruction and student engagement. It is imperative as principals to consistently monitor teacher instruction through informal walk-throughs and lesson plan review to ensure differentiated approaches. With that said, professional development needs to occur to ensure that teachers fully understand what best practices are on how assessment and

learning are reciprocal. Although the teacher's role in instruction impacts student learning, engaging students within their own learning impacts ultimate success. If students take no ownership in productive learning, then teaching becomes a standard operating system with no impact on success. Students need to fully understand where they are, where they need to be, and how to get there. Unfortunately, students do not come to school equipped with this skill; they need to be taught and guided to become reflective learners. In order for me to come up with a plan of action to change some of these areas, I will share my findings with my district in hopes of making our formative assessment system more effective in the areas of : strategic data-driven instruction, enaging students within their own learning, and improving math instruction to match rigor and content.

REFERENCES

Black, P., & Williams, D. (1998). Assessment and classroom learning. *Assessment in Education, 5*(1), 7-74.

Conderman, G., & Hedin, L. (2012). Classroom assessments that inform instruction. *Kappa Delta Pi Record*, *48*(4): 162–168.

Cuban, L. (2011). Data-driven instruction and the practice of teaching. Retrieved from: https://larrycuban.wordpress.com/2011/05/12

Gardner, H. (2004). *The unschooled mind: How children think and how schools should teach.* New York: Basic Books.

Heritage, M. (2007). Learning progressions: Supporting instruction and formative assessment. National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Illinois Interactive Report Card. Retrieved from: http://iirc.niu.edu

McManus, S. (2008). Attributes of effective formative assessments. *In the Council of Chief State School (Ed.)*, Formative assessment for teachers and students state collaboration on assessment and student standards of the council of chief state school officers.

National Association of Elementary School Principals (NAESP). (2011). *Using student achievement data to support instructional decision making*, 3–9.

National Research Council. (2011). *Incentives and test-based accountability in education.*

Retrieved from: http://nap.edu

Patton, M.Q. (2008). *Utilization-focused evaluation* (4th ed.). Thousand Oaks, CA: Sage.

Schultz, K., & Thunder, K. (2015). Making formative assessment multidimensional. *Teaching Children Mathematics*, *21*(8), 453–454.

Sorenson, A., & Hallinan, M. (1977). Reconceptualization of school effects. *American Sociological of Education. 50*(4), 273–289.

Stiggins, R. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan*, *86*(1).

Stiggins, R. (2007). Assessment through the student's eyes. *Educational Leadership*, *64*(8), 2–26.

Stiggins, R., & Chappuis, J. (2006). What a difference a word makes. *National Staff Development Council*. 27(1), 10-14.